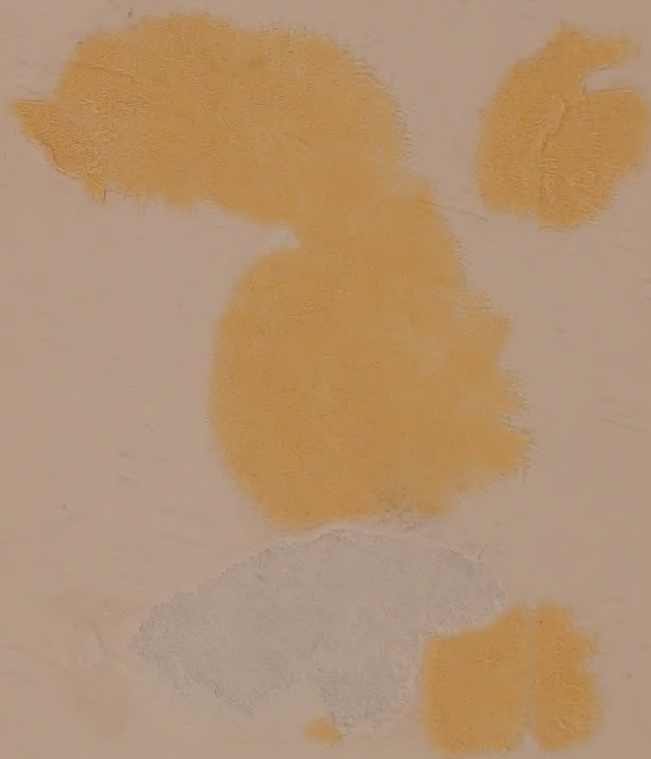




CANADA YEAR BOOK

1959

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The House of Commons in deliberation during the 1959 January-to-July Session. The Prime Minister (standing) with his colleagues and the Government supporters sit to the right of the Speaker and the Opposition to the left. The Press sits immediately above the Speaker's chair and the remainder of the gallery is open to the public.

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CANADA YEAR BOOK

1959

OFFICIAL STATISTICAL ANNUAL OF THE
RESOURCES, HISTORY, INSTITUTIONS AND SOCIAL
AND ECONOMIC CONDITIONS OF CANADA

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PREFACE

The 1959 edition of the Canada Year Book continues a series of annual publications giving official statistical and other information on almost every measurable phase of Canada's development. As the economy of the country has expanded, the Dominion Bureau of Statistics has extended its program of statistical compilation and analysis and the Canada Year Book has endeavoured to present the story of this development, summarizing a great mass of detailed statistical information concisely within the covers of one volume and supplementing it with data from other Departments of the Federal Government and from the provinces.

Special feature articles are presented in each edition of the Year Book. Those in the current issue include: "The Atlas of Canada" (pp. 12-13); "The Climate of Canada" (pp. 23-50); "The International Geophysical Year" (pp. 54-57); "Integration of Postwar Immigrants" (pp. 176-178); "Canada's Mineral Industry 1957-58" (pp. 488-509); "The Fisheries Research Board" (pp. 584-588); "Steel in Canada" (pp. 618-625); and "A History of Canadian Journalism 1900 to 1958" (pp. 883-902).

In addition, other features have been introduced and extensive revisions made in the textual and statistical material of the various chapters, including such subjects as immigration, vital statistics, public health and welfare, scientific, medical and industrial research, forestry, power development, mineral production, manufacturing, the labour force, prices, public finance, banking, insurance, transportation and communication by various media, the domestic marketing of commodities, foreign trade, national income and expenditure and Canada's international investment position. Numerous charts graphically portray significant trends in the developing Canadian economy, while the Introduction (pp. ix-xv) describes briefly the state of the economy during 1958-59.

The concluding chapter, entitled "Sources of Official Information and Miscellaneous Data", presents handy reference material listing government information services, special material published in earlier Year Books, federal legislation of recent sessions of Parliament, a Canadian chronology of events, a register of official appointments, and a statistical summary of the progress of Canada since 1871.

In the Appendix certain material on Government (Chapter II) is brought up to the date of going to press, including recent election results in the provinces and changes in the Eighteenth Ministry of Canada.

Enclosed in the pocket on the inside back cover of the volume is a detailed map depicting the principal mineral areas of Canada.

The present volume has been produced in the Canada Year Book Section of the Information Services Division by Miss M. Pink, Assistant Editor of the Year Book and Chief of the Section, with the assistance of Miss F. L. O'Malley, Miss C. Freeth and the Year Book staff, under the editorship and direction of Dr. C. C. Lingard, Director of the Division. Charts, graphs and maps have been prepared for publication by Miss P. Beland and the Drafting Unit of the Bureau.

The co-operation of numerous officials of the various Departments of the Federal and Provincial Governments and of this Bureau in the preparation of material for the Year Book is gratefully acknowledged. Credit by means of footnotes is given where possible either to the persons or to the branches of the public service concerned.

Walter E. Duffett.

DOMINION STATISTICIAN

DOMINION BUREAU OF STATISTICS,
Ottawa, September 15, 1959.

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WEIGHTS AND MEASURES AND OTHER INTERPRETATIVE DATA

In Canada as a rule the Imperial system of weights and measures is followed. An exception however is the ton where, unless otherwise stated, the short ton of 2,000 lb. is meant. Billion where used represents 1,000 million.

The following table shows the weights and measures used in Canada in connection with the principal field crops and for wheat flour and fruits:—

	<i>Pounds per Bushel</i>		<i>Pounds</i>
Grains—		Fruits (standard conversions)—	
Wheat.....	60	Apples, per barrel.....	135
Oats.....	34	Apples, per box.....	43
Barley.....	48	Pears, per bushel.....	50
Rye.....	56	Plums “ “.....	50
Buckwheat.....	48	Cherries “ “.....	50
Flaxseed.....	56	Peaches “ “.....	50
Corn.....	56	Grapes “ “.....	50
Mixed grains.....	50	Pears, per box.....	42
All others.....	60	Strawberries, per quart.....	1.25
		Raspberries “ “.....	1.25
		Loganberries “ “.....	1.25

Wheat Flour—

1 barrel equals 196 pounds; approximately 4.5 bushels of wheat are used in the production of a barrel of flour.

Relative Weights and Measures, Imperial and United States

The following list of coefficients may be used to translate amounts expressed in one unit to the other. It must be borne in mind that where the list below refers to Imperial pint, quart and gallon, their equivalent in ounces is also in Imperial measure; likewise United States designations for these quantities are shown in the U.S. equivalent in ounces. The Imperial (or British) fluid ounce and the U.S. fluid ounce are different measures. One Imperial fluid ounce equals 0.96 United States fluid ounce and one Imperial gallon equals 1.2 United States gallon.

1 Imperial pint=20 fluid ounces.	1 Imperial proof gallon=1.36 United States proof gallon.
1 United States pint=16 fluid ounces.	1 Short ton=2,000 pounds.
1 Imperial quart=40 fluid ounces.	1 Long ton=2,240 pounds.
1 United States quart=32 fluid ounces.	1 Barrel crude petroleum=35 Imperial gallons.
1 Imperial gallon=160 fluid ounces.	
1 United States gallon=128 fluid ounces.	

Fiscal Years of Federal and Provincial Governments

The fiscal year of the Federal Government and of each of the ten Provincial Governments ends on March 31.

Throughout the Year Book, fiscal year figures are indicated in the text and headings of tables; otherwise figures are for calendar years.

INTRODUCTION

THE CANADIAN ECONOMY DURING 1958 AND THE FIRST HALF OF 1959

During the course of 1958 the recessionary influences that had adversely affected the level of economic activity in 1957 gave way to expansionary forces and the gross national product gradually resumed its upward course. By the second quarter of the year, economic activity was showing a firmer trend and by the closing quarter recovery had begun to gather momentum. The first half of 1959 brought evidence of further improvement on a broad front.

THE ECONOMY DURING 1958

As a result of conflicting trends in the economy, the gross national product for 1958, estimated at \$32,500,000,000, was only 2 p.c. higher than the estimate for 1957. Since the greater part of this increase represented higher prices, the gross national product in real terms rose less than 1 p.c., the slight gain being accounted for by higher production in the farm sector; non-farm production remained unchanged. The relative stability in the total volume of output in 1958 compares with gains of 9 p.c. in 1955 and 1956, no change in 1957, and an annual average for the years 1947 to 1958 of 4 p.c.

The main downward pressure in the economy came from business investment, with inventories playing a prominent part. Although liquidation of business inventories was arrested during the course of the year, for the year as a whole final demand was met in part out of stocks that were not replenished from current production. This downward pressure was strongly reinforced by a drop in business expenditures for non-residential construction and for machinery and equipment. The curtailment in expenditures by these three components was equivalent to a decline of about \$1,400,000,000 in terms of new production.

However, these downward pressures were more than counteracted by the continued increase in government and consumer expenditures for goods and services and by renewed expansion in housing. Encouraged by an ample supply of mortgage funds, expenditures for residential construction reached an all-time high. The rising trend of personal income was undoubtedly a source of strength in housing as well as in the consumer sector. At the same time, part of the impact of easing demand fell on foreign rather than on domestic sources of supply; imports of goods and services were substantially below the record level of the previous year. Although there were decided shifts in the composition of exports, reflecting mingled weakness and strength in external markets, exports of goods and services remained close to the record level of the previous year.

By shifting from a moderate surplus to a large deficit, the Federal Government played an important sustaining role in the economy during the recession. The deficit, which began to emerge at the end of 1957 and reached its peak in mid-1958, amounted to \$798,000,000 at the end of that year, in contrast to a surplus of \$239,000,000 at the end of the preceding year.* Government expenditures for goods and services rose 4 p.c. and transfer payments 23 p.c., the latter mainly a reflection of larger disbursements from the unemployment insurance fund and legislative changes in social security schemes enacted in 1957. At the same time, recessionary influences reduced government revenues by 4 p.c.

The outstanding development on the income side was the disparity in rates of increase in the major income components. While national income rose only about 3.5 p.c., personal income and personal disposable income rose 6 p.c. and 7 p.c., respectively. The most important single element in this disparity was the greater flow of transfer payments from

* The shift for all governments combined (federal, provincial and municipal) was from a surplus of \$70,000,000 in 1957 to a deficit of \$1,035,000,000 in 1958.

government to persons, the effect of which was reinforced by a decline in personal direct tax collections; of the \$1,500,000,000 gain in disposable personal income, about 45 p.c. was thus accounted for. National income, which does not measure changes in these transfer-type transactions, was affected by a significant decline in corporate profits. Although the gradual improvement in economic activity resulted in an increase in most income components throughout 1958, the downward trend in corporate profits, in evidence since early in 1956, was not reversed until the latter part of the year.

The following paragraphs describe in more detail the movements of the components of the main statistical aggregates and discuss the patterns of production, employment and prices associated therewith.

THE COMPONENTS OF DEMAND

As previously noted, income available to consumers for spending advanced sharply in 1958. Personal outlay on consumer goods and services reached an estimated \$21,000,000,000, an advance of 5 p.c. over 1957. But this rate of increase fell considerably short of the 7-p.c. rise in income and the rise in the rate of personal saving became one of the notable developments of the year. The ratio of saving to income, in fact, was one of the highest of the postwar period.

The gain in consumption was fairly well distributed over the three main categories, with outlays for non-durables up 5 p.c., for durables up 3 p.c. and for services up 7 p.c. Higher prices and increased real consumption were about equally important in accounting for the higher spending. The upward pressure in prices continued to be most pronounced in the service industries but was evident to some degree in all the other main categories. While the 3-p.c. advance in purchases of durables was modest by comparison with such years as 1955 and 1956, it represented a distinct contrast to 1957 when such purchases remained unchanged. All the main durable categories increased in 1958 but the largest advance was in automobiles. The rate of consumer spending was by no means uniform throughout the year. Most of the annual increase occurred in the first and last quarters, particularly the latter, when seasonal factors are taken into account. This pattern, through time, is largely a reflection of a falling-off in purchases of durables in the two middle quarters of the year.

Outlays for residential construction, reaching new records in 1958, were a powerful stimulus in the economy. Estimated at \$1,800,000,000, the value was 25 p.c. higher than in 1957. During the year 164,632 new dwelling units were started compared with 122,340 in 1957 and a previous record of 138,276 in 1955 and there was a record number of houses under construction at the end of the year. The decisive factor in creating this extremely high level of house construction was the great addition to the supply of mortgage funds. The Federal Government made available for lending the unprecedentedly large sum of \$373,000,000 through the agency of Central Mortgage and Housing Corporation and additional funds also became available from private sources. Throughout the year, housing expenditures rose continuously.

The impact of recessionary influences was clearly apparent in the 1958 trend of business expenditures for plant and equipment. Outlays fell by 13 p.c. to \$5,100,000,000 involving a drop of 9 p.c. for construction and one of 18 p.c. for machinery and equipment, and the trend was still downward at the end of the year. The investment program showed a decided shift of emphasis away from resource industries. Financial services and institutions increased their investment but in all other areas investment was curtailed in varying degrees, the greatest being in mining, which showed a drop of 40 p.c. Investment in manufacturing industries fell 27 p.c., reflecting reduced outlays in all industry divisions except foods and beverages, tobacco products and products of petroleum and coal. Investment outlays of the utilities continued to be large, though below the level of the previous year. The year 1958 marked the completion or near completion of certain major long-term projects such as the St. Lawrence Seaway and Power Project and the Trans-Canada Pipeline, a fact reflected in the trend of investment outlays.

The behaviour of inventories was of importance in the sequence of expansion, recession and recovery. In 1958 the liquidation of business inventories amounted to \$300,000,000 in contrast to approximately the same amount of accumulation in 1957 and the heavy accumulation of \$800,000,000 in 1956. The rate of accumulation began to fall in the latter part of 1956; liquidation set in at the end of 1957 and continued at a high rate in the first half of 1958. By the second half of the year stocks were being built up on a modest scale, thereby adding to the demands on current production.

Total inventories were reduced by \$400,000,000 in 1958 as a result of some reduction of stocks on farms and of grain in commercial channels, in addition to the liquidation of business inventories already mentioned. Most of the drawing down of stocks was concentrated in manufacturing industries and by the year-end manufacturers in general had reduced the ratios of stocks to shipments well below those prevailing at the end of 1956 and 1957, and close to the low levels of year-end 1955. At the same time, there was a slight accumulation of stocks in trade as a whole but, by the year-end, the rise in retail and wholesale sales had reduced the ratio of stocks to sales below those of a year earlier.

Despite weakness in external markets for some important export products, exports of goods and services, valued at \$6,300,000,000 in 1958, were only 2 p.c. below the record established in the previous year. In 1958, even more than in 1957, the trends among individual commodity exports diverged widely within a virtually unchanged total. Two new resource products—uranium and natural gas—were conspicuous among the group showing rising export values; others were wheat and flour, cattle and aircraft. The declining group included such traditional export products as pulp and paper, copper, nickel, lead, zinc and asbestos, as well as two new resource products—iron ore and petroleum. The quarter-to-quarter changes in exports showed no clear pattern.

Typically responsive to changes in the level of economic activity and in the level of investment in particular, imports of goods and services fell to \$7,400,000,000 in 1958, a decline of 6 p.c. The major part of the drop was in commodity imports and was concentrated in the groups that had risen most sharply in 1955 and 1956. When classified on a functional basis* imports of investment goods are shown to have fallen 15 p.c. and imports of industrial materials 8 p.c. Reflecting the strength of demand in the personal sector, imports of consumer goods rose 4 p.c. The sharp contraction in the deficit on commodity trade, accompanied by a growing gap in the deficit on service items, brought a reduction in the over-all deficit on current international account from \$1,400,000,000 in 1957 to \$1,100,000,000 in 1958. However, the annual rate was running considerably above this figure in the second half of the year.

INCOME FLOWS

Reflecting the effect of recessionary influences, corporate profits† fell for the second year in succession and at an estimated \$2,500,000,000 in 1958 were 3 p.c. lower than in 1957 and 15 p.c. lower than in 1956. The trends in corporate earnings by industry varied widely. In general, earnings declined in industries oriented toward the external market or the domestic market for durable goods. On the other hand, some consumer soft goods industries and most service-connected industries experienced higher corporate earnings. The quarterly pattern of corporate profits showed the fluctuations typical of this component. After a series of declines, corporate profits stabilized in the second quarter of 1958 and rose at a sharply accelerating rate in the second half of the year. The more favourable experience of the closing quarter of the year was widespread.

The relatively large rise in personal income was, as already mentioned, to a large extent a result of the rise in transfer payments. However, the increases in the incomes earned in productive activity were also important. Labour income rose to \$16,400,000,000 in 1958, about 3 p.c. higher than in 1957, most of this increase being attributable to a further advance in wage rates. Gains occurred in most service-producing industries; in general, they were quite substantial, reflecting the further expansion of employment in

* Source: Imports by Source and End-Use, *Statistical Summary of the Bank of Canada*, April, 1959.

† Before taxes and after dividends paid abroad, which is the figure included in National Income.

these industries as well as higher average earnings. Labour income in forestry, where employment was sharply reduced, was considerably lower; in mining and manufacturing it was only a little below the level of the previous year. On a seasonally adjusted basis, labour income tended to rise during the course of the year.

Farm net income made a major advance and, at \$1,200,000,000, was 16 p.c. higher than in 1957. This increase reflected larger output and higher prices for livestock and animal products. Net income of unincorporated business (non-farm) was \$2,100,000,000, up 5 p.c., and investment income of persons (dividends, interest and net rents) at \$2,100,000,000 was 6 p.c. higher. It may be noted that dividends did not reflect the decline in corporate earnings.

PRODUCTION, EMPLOYMENT AND PRICES

The level of non-farm production remained unchanged in 1958 but the product pattern of output continued to shift in the direction of the service-producing industries. In general, the impact of recessionary influences fell on the commodity-producing industries.

Manufacturing output was lower by 3 p.c., most of the decline being in the durable group. The 7-p.c. decline in output of durables in 1958 followed one of 4 p.c. in the preceding year. With the exception of non-metallic mineral products and wood products, all the durable groups reduced their output, the most pronounced declines being in transportation equipment and in iron and steel. The non-durable groups displayed mixed trends within a roughly unchanged total. Manufacturing production, after allowing for seasonal factors, showed some recovery in the opening months of the year, rising to a peak in May, followed by a setback in the summer months and renewed expansion in the closing quarter. By December, the seasonally adjusted index of manufacturing production stood at 142.2 (1949=100), about 6 p.c. above its low of one year earlier but still 5 p.c. below its peak in December of 1956.

Although mining production followed a gently declining trend throughout 1958, for the year as a whole it was about the same as in 1957. Output of nickel, asbestos, iron ore and petroleum fell sharply as a result of the deterioration in foreign markets for these products, although in the case of nickel a prolonged industrial dispute was also a factor. Production of uranium and natural gas was greatly expanded, constituting a major element in sustaining over-all output.

Agricultural output was substantially higher by reason of increased production and sales of livestock in response to opportunities for export to the United States and higher domestic prices. Crop production was about the same as in 1957. Production in forestry was considerably lower in the year-to-year comparison; a further sharp decline in output of pulpwood was partially offset by expansion in other forest products.

The goods-handling industries, like the goods-producing industries, were adversely affected by the recession. Transportation, communication and storage activity declined as railways, oil pipelines and shipping had a smaller volume of business to handle. Activity in other service industries continued to rise.

Considering the levels of employment associated with the trends in production, the total number of persons with jobs (5,722,000) was somewhat lower than in 1957, although the number of persons with jobs in the non-farm sector (5,010,000) was slightly higher than in the preceding year. The over-all decline in employment together with the growth of the labour force raised the number of persons without jobs and seeking work, expressed as a percentage of the labour force, from 4.3 p.c. in 1957 to 6.6 p.c. in 1958. A small reduction in hours of work in some industries was further evidence of weakness in the labour market.

An examination of the statistics of employment in non-agricultural establishments gives additional information on the industrial distribution of employment in 1958 and supplements the description of trends in labour income presented earlier. For the year as a whole, the industrial composite index of employment was down 4 p.c., much the sharpest decline being in forestry where it was about 25 p.c. Manufacturing employment was

down 5 p.c., almost all of the decline being in the durable segment. Employment in mining, transportation, communication and storage, and construction was lower by rates that ranged from 3 p.c. to 7 p.c. On the other hand, employment in public utilities, finance, insurance and real estate, and services continued to make modest gains, and employment in trade was unchanged. The underlying trend in employment was obscured to some extent by the incidence of industrial disputes in the latter part of the year but it seems that the strength then beginning to manifest itself in the production indexes was not matched in the employment indexes. However, when capacity is under-utilized production can often be expanded without a commensurate increase in employment.

The rise in consumer prices which began in mid-1956 moderated a little in 1958 and the index for the year averaged 2.6 p.c. higher than in 1957 compared with a 3.2-p.c. increase in that year. All the major component groups of the index were higher in 1958, the largest increase occurred in services where prices rose nearly 4 p.c.; food prices averaged 3 p.c. higher, a lower rate of increase than in 1957.

All the components of gross national expenditure except exports of goods and services continued to register a further price advance in 1958, but the increases were generally smaller than in the preceding year. The easing of pressure on prices was particularly evident in the sector of capital goods, although residential construction showed much the same price change as in the preceding year. The increment in the value of the nation's production attributable to rising prices was 2 p.c., that is, almost all the increase in gross national product.

Advancing final-product prices were accompanied by generally stable prices in wholesale markets. The indexes of wholesale prices for the years 1957 and 1958 were virtually the same but there was a change of trend within the period. Wholesale prices, which had been rising in 1956 to reach a peak at the beginning of 1957, tended to decline a little until the autumn of 1958 but by the end of the year had returned to their previous high. The major increase in wholesale prices in 1958 was in the animal products group. The downward trend in the non-ferrous metals group was arrested and then reversed in the latter half of the year. Some recovery in wood product prices was also evident by the end of 1958. Textile products was the only group to show a persistent downtrend throughout the year.

THE FIRST HALF OF 1959

By the second quarter of 1959 the accumulating strength of expansionary forces had raised the gross national product to \$34,712,000,000, at seasonally adjusted annual rates, nearly 7 p.c. higher than the average for 1958. The slight downtrend in the business expenditures for plant and equipment had been reversed and, while expenditures for housing continued to fall below the extremely high level of the closing quarter of 1958, fixed capital formation was again acting as a stimulus to the economy for the first time since the onset of the recession. Exports had begun to show improvement on a fairly broad base, largely in response to the vigour of recovery in the United States. At the same time, imports were rising in reflection of the progress of recovery in Canada. Further modest accumulation of business inventories was another element of strength. Meanwhile, consumer and government expenditure continued to enlarge the demands on the nation's productive capacity. By June, the index of industrial production was 10 p.c. above its recession low at the end of 1957 and the rate of unemployment had fallen substantially. These developments had taken place within a context of stable wholesale and retail prices. With the progress of recovery and the higher tax rates, government revenues were rising, thus narrowing the deficit. As expansionary forces were increasingly present in the private sector, the sustaining role of the public sector was diminishing in importance.

The most marked development during the first half of the year was the renewed strength in business investment. Expenditures for non-residential construction and for machinery and equipment both turned upward. By the second quarter, business expenditures for plant and equipment had reached a level of \$5,344,000,000, 4 p.c. higher than the annual rate for 1958. At the same time, housing starts began to decline, reflecting the

curtailment of Central Mortgage and Housing loans to builders at the end of 1958; starts for the first six months were decidedly lower than in the same period of 1958 and the value of residential construction was moderately lower. Thus, despite the renewed strength in expenditures for non-residential construction and machinery and equipment, gross fixed capital formation in the first half of the year was at approximately the same level as a year earlier.

The importance of the upsurge of economic activity in the United States to Canada's external trade was apparent from the fact that exports increased even though sales to most overseas markets were lower in the first half of the year; by the end of the second quarter, total sales and sales to the United States had reached new high levels. Improvement was fairly general among the commodity groups but the increases were most pronounced in such minerals as uranium, iron ore, and asbestos, such forest products as lumber, wood pulp, plywood and veneers, and in farm machinery. At the same time, declines occurred in such farm products as wheat, other grains and cattle, in such metals and minerals as nickel, copper and petroleum, and in aircraft and some chemicals. In the previous year, special non-recurring factors had raised the level of exports of some Canadian products, for example wheat and military aircraft. Despite the improvement in sales, many export industries continued to operate at less than capacity.

The general improvement in economic activity in Canada, particularly the recovery in business investment in fixed capital and in inventories, raised the demand for imports. Increases were distributed among industrial materials, consumer goods and some industrial equipment, the last-named being especially apparent in the second quarter.

For the first half of the year merchandise exports were up 2 p.c. and merchandise imports 10 p.c. compared with the same period of 1958, with the result that the deficit on merchandise trade increased from \$140,000,000 to \$355,000,000. Meanwhile, the deficit on non-merchandise transactions also continued upward to reach a total of \$837,000,000, larger than in any half-year since 1957.

By contrast with the first half of 1958 when a substantial part of final demand was being met out of stocks rather than out of current production, the building up of stocks in the first half of 1959 made new demands on the nation's output. The shift from liquidation of business inventories in the one period to accumulation in the other represented about an additional \$800,000,000 in terms of current production. Business inventories figured more prominently in recovery in the first quarter than in the second.

Supported by the advance in personal incomes, consumer expenditure rose moderately in the first half of the year and by the second quarter had reached an annual rate of \$22,092,000,000, 5 p.c. higher than the level of 1958. While the increase in spending was fairly widely distributed, the major part of it was devoted to the purchase of durable goods. Unusually high rates of personal saving continued to be a feature of consumer behaviour in the first half of 1959. In real terms, per capita consumption was 3 p.c. higher and purchases of durables 5 p.c. higher than in the same period of 1958.

Considering developments on the income side, corporate profits in the first half of the year, remaining at the high level to which they had returned by the closing quarter of 1958, were more than 20 p.c. higher than in the same period a year earlier. Labour income continued to rise, reflecting the improvement in the employment situation and higher average earnings. The 8-p.c. advance compared with a year earlier was the outcome of fairly substantial gains in almost all industries. As a result of reduced employment in mining, the wage bill in this industry was only a little higher. Unlike the year 1958 when a relatively large part of the increase in personal income came in the form of transfer payments from government, in the first half of 1959 transfer payments and incomes earned in productive activity rose at about the same rate. Personal income rose 7.5 p.c.

The pattern of production emerging in the first half of the year reflected recovery in the goods-producing industries. Output increased in both the durable and non-durable segments of manufacturing, despite declines in some individual industries, bringing the total index for June up 3.5 p.c. from the preceding December and 10 p.c. above its recession

low. The gain in mining production was much more pronounced, partly as a result of industrial disputes late in 1958. Forestry production was also higher. In general, production in the service-producing industries continued to rise during the recession and expanded further in the first half of 1959.

Comparing the first half of 1959 with the same period of 1958, real output as a whole was about 5 p.c. higher, with the goods-producing and the service-producing sectors showing about the same rate of advance. Construction was the only industry with a lower output. Employment showed greater than seasonal strength in the opening months of the year and by June the number of persons with jobs, 6,053,000, was at an all-time high, and 174,000 more than a year earlier. The number of persons without jobs had fallen more than seasonally and in June represented 4.6 p.c. of the labour force, compared with 7.2 p.c. a year earlier. The number of persons with jobs in the first six months of 1959 was nearly 2.5 p.c. higher than in the same period of 1958. Thus the expansion in employment continued to fall short of the growth in output.

The industrial composite index of employment and its manufacturing component rose 2 p.c. in the first six months of the year on a seasonally adjusted basis. The greater part of the non-seasonal expansion in employment opportunities in manufacturing was in the durable goods industries, despite the large-scale lay-offs in the aircraft industry that followed the cancellation of contracts in February. Although there was general improvement in the employment situation, the composite index in June was still appreciably below the peak reached two years earlier.

SYMBOLS

The interpretation of the symbols used in the tables throughout this publication is as follows:—

.. figures not available.

... figures not appropriate or not applicable.

— nil or zero.

- - amount too small to be expressed or where "a trace" is meant.

» preliminary figures.

• revised figures.

CHAPTER I.—PHYSIOGRAPHY AND RELATED SCIENCES

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NOTE.—The interpretation of the symbols used in the tables throughout the Year Book will be found on the facing page.

PART I.—GEOGRAPHY*

Canada comprises the greater part of the northern half of North America and lies between the United States, Alaska and Greenland. In longitude Canada extends from Cape Spear, Newfoundland, at 52°37'W, to Mount St. Elias, Yukon Territory, at 141°W, a distance of 88°23'. In latitude it stretches from Middle Island, Lake Erie, at 41°41'N, to the North Pole. The northernmost point of land is Cape Columbia on Ellesmere Island, at 83°07'N. Thus Canada is essentially a western and a northern country, a fact of increasing strategic significance. Moreover the climatic, vegetal and soil belts are drawn out into broad east-west zones, thereby supporting the east-west orientation of the main frontier of the country and aiding Canada's historic east-west development.

The shape of Canada is like a distorted parallelogram with its four corners making important salients. In the north the salient formed by the Arctic Archipelago, which penetrates deep into the Arctic basin, guards the northern approaches to the Continent from Europe and Asia and makes Canada neighbour to the Union of Soviet Socialist Republics. In the south the salient of peninsular Ontario thrusts far into the heart of the United States. In the east the salient of Labrador and the Island of Newfoundland commands the shortest crossings of the North Atlantic Ocean and links Canada geographically with the United Kingdom and France. In the west the broad arc of land between Vancouver in southern British Columbia and Whitehorse in Yukon Territory provides

* Revised by the Geographical Branch, Department of Mines and Technical Surveys, Ottawa.

the shortest crossings of the North Pacific Ocean between continental North America and the Far East. Canada thus stands at the crossroads of contacts with the principal powers and some of the most populous areas of the world.

In size, Canada is the largest country in the Western Hemisphere and the second largest country in the world. Its area of 3,851,809 sq. miles may be compared with that of the Union of Soviet Socialist Republics, 8,649,821 sq. miles,* the United States of America (including Alaska), 3,608,790 sq. miles,* and Brazil, 3,287,204 sq. miles.* It is more than forty times the size of the United Kingdom and eighteen times that of France. The immense size of the country, while encompassing many resources and seeming to afford much scope for settlement, imposes its own burdens and limitations, particularly because much of the land is mountainous and rocky or is under an arctic climate. The developed portion is probably not more than one-third of the total; the occupied farm land is only 7.7 p.c. and the currently accessible productive forested land 18.7 p.c. of the total. The population of Canada, estimated at 17,048,000 on June 1, 1958, may be compared with 168,174,000* for the United States (excluding Alaska) (1956) and with 59,846,000* for Brazil (1956).

1.—Approximate Land and Freshwater Areas, by Province or Territory

NOTE.—A classification of land areas as agricultural, forested, etc., is given at p. 14.

Province or Territory	Land	Freshwater	Total	Percentage of Total Area
	sq. miles	sq. miles	sq. miles	
Newfoundland.....	143,045	13,140	156,185	4.1
Island of Newfoundland.....	41,164	2,195	43,359	1.1
Labrador.....	101,881	10,945	112,826	5.0
Prince Edward Island.....	2,184	—	2,184	0.1
Nova Scotia.....	20,402	1,023	21,425	0.6
New Brunswick.....	27,835	519	28,354	0.7
Quebec.....	523,860	71,000	594,860	15.4
Ontario.....	344,092	68,490	412,582	10.7
Manitoba.....	211,775	39,225	251,000	6.5
Saskatchewan.....	220,182	31,518	251,700	6.5
Alberta.....	248,800	6,485	255,285	6.6
British Columbia.....	359,279	6,976	366,255	9.5
Yukon Territory.....	205,346	1,730	207,076	5.4
Northwest Territories.....	1,253,438	51,465	1,304,903	33.9
Franklin.....	641,763	7,500	649,263	14.5
Keewatin.....	218,460	9,700	228,160	5.9
Mackenzie.....	493,215	54,265	547,480	15.7
Canada.....	3,560,238	291,571	3,851,809	100.0

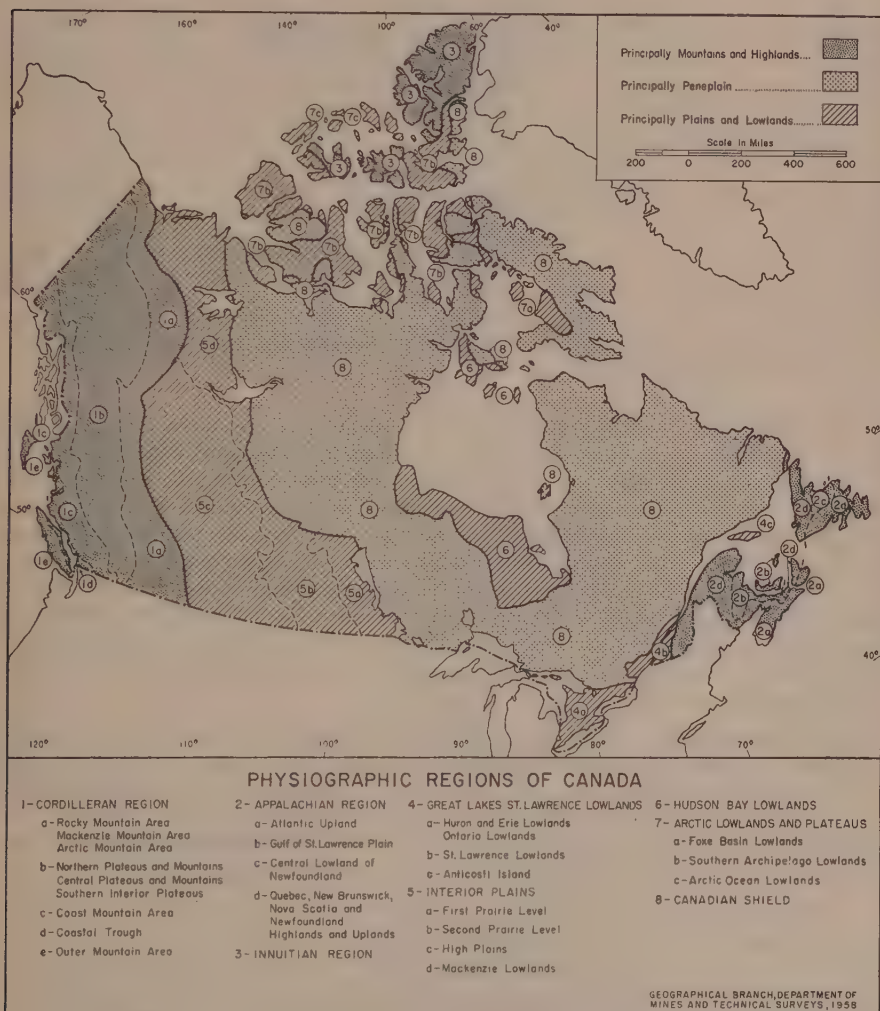
Section 1.—Physical Geography

Subsection 1.—Physiographic Regions

Canada includes each of the major characteristic structures of the North American Continent with the exception of the Atlantic coastal plain. Structure tends to dominate relief to a remarkable degree even though its effects have been modified by glacial and river erosion or deposition. Consequently, structural regions have become main physiographic divisions. Basically, Canada consists of a central rocky upland or shield, sloping down to flanking basins filled with sedimentary strata and rising again at the margins to mountains of folded rocks, interspersed with igneous intrusions.

* United Nations Statistical Yearbook, 1957.

Eight physiographic regions dominate the country: (1) the Cordilleran Region; (2) the Appalachian Region; (3) the Innuitian Region; (4) the Great Lakes St. Lawrence Lowlands; (5) the Interior Plains; (6) the Hudson Bay Lowlands; (7) the Arctic Lowlands and Plateaus; and (8) the Canadian Shield. Descriptions of these regions (under slightly different nomenclature) are given in the 1957-58 Year Book at pp. 3-9.



Subsection 2.—Inland Waters

The inland waters of Canada (not including saltwater areas that are a part of Canada) are extensive, constituting over 7.6 p.c. of the total area of the country. They are best studied by segregating the main drainage basins as shown in Table 2.

2.—Drainage Basins

Drainage Basin and Province or Territory	Area Drained ¹	Drainage Basin and Province or Territory	Area Drained ¹
	sq. miles		sq. miles
Atlantic Basin	695,370	Arctic Basin (mainland)	944,280
Ontario.....	116,000	Saskatchewan.....	46,650
Quebec.....	372,780	Alberta.....	158,110
Newfoundland.....	155,360	British Columbia.....	105,020
New Brunswick.....	27,980	Yukon.....	53,970
Nova Scotia.....	21,070	Northwest Territories.....	580,530
Prince Edward Island.....	2,180		
Hudson Bay Basin	1,160,420	Pacific Basin	387,210
Quebec.....	199,230	British Columbia.....	251,990
Ontario.....	259,810	Yukon.....	135,220
Manitoba.....	243,780		
Saskatchewan.....	189,620	Gulf of Mexico Basin	8,600
Alberta.....	86,530	Alberta.....	2,540
Northwest Territories.....	181,450	Saskatchewan.....	6,060

¹ Areas are approximate and are exclusive of those portions of the basins of all rivers that lie in United States territory, and of areas of interior drainage.

During the early period of exploration and development the waterways of Canada were the sole means of access to and travel in the interior. This function is still of importance to much of the country, particularly in the north where most traffic moves by water or by air. In the settled areas, however, the construction of roads and railways has reduced the role of the waterways as transportation routes but they have assumed other functions. Some, particularly in the Canadian Shield area and the Cordilleran region, have been harnessed for the production of electric power. Others, mainly in southern Alberta and Saskatchewan, have been dammed to provide water for irrigation purposes. In Eastern Canada many of the rivers have been controlled in an over-all program of flood prevention and conservation of renewable resources or to provide dependable supplies of water for industrial and domestic purposes.

In Eastern Canada, the Great Lakes and St. Lawrence drainage system dominates all others and forms an unequalled navigable inland waterway through an extensive region rich in natural and industrial resources. From Duluth, Minn., at the head of Lake Superior to Belle Isle at the entrance to the Gulf of St. Lawrence the distance is 2,280 miles. The St. Lawrence waterway and its tributaries, most of which have lakes available for reservoiring, have very large developed and potential power resources.

The greater part of Canada drains into Hudson Bay and the Arctic Ocean; the Nelson River drainage is exceptional in running *through* the most arable and the most settled part of Western Canada but otherwise the rivers of the West, east of the Rockies, run *away* from the settled areas towards the cold northern salt waters and this adversely affects their industrial utility. The Mackenzie River, which drains Great Slave Lake, is, with its headwaters, the longest river in Canada (2,635 miles) and its valley constitutes the natural transportation route through the Northwest Territories to the Arctic Ocean. From Fort Smith on the Slave River large river boats run without any obstruction to Aklavik on the delta of the Mackenzie, a distance of 1,292 miles. Table 3 gives the lengths of the principal rivers with their tributaries, classified according to the four major drainage basins.

3.—Lengths of Principal Rivers and Their Tributaries

NOTE.—In this table the tributaries and sub-tributaries are indicated by indention of the names. Thus the Ottawa and other rivers are shown as tributary to the St. Lawrence, and the Gatineau and other rivers as tributary to the Ottawa.

Drainage Basin and River	Length	Drainage Basin and River	Length
	miles		miles
Flowing into the Atlantic Ocean		Flowing into Hudson Bay—concluded	
St. Lawrence (to head of St. Louis, Minn.).....	1,900	Eastmain.....	510
Ottawa.....	696	Fort George (to Nichicum Lake).....	480
Gatineau.....	240	Attawapiskat.....	465
du Lièvre.....	205	Kazan.....	465
Coulonge.....	135	Nottaway (to head of Waswanipi).....	400
Madawaska.....	130	Waswanipi.....	190
Rouge.....	115	Nelson (to head of Lake Winnipeg).....	400
Mississippi.....	105	Rupert.....	380
Petawawa.....	95	Red (to head of Lake Traverse).....	355
South Nation.....	90	George (to Hubbard Lake).....	345
Dumoine.....	80	Moose (to head of Mattagami).....	340
North.....	70	Abitibi.....	340
North Nation.....	60	Mattagami.....	275
Saguenay (to head of Peribonca).....	475	Missinabi.....	265
Peribonca.....	280	Hayes.....	300
Mistassini.....	185	Winisk.....	295
Ashuapmucuan.....	165	Whale.....	270
St. Maurice.....	325	Harricanaw.....	250
Mattawin.....	100	Great Whale.....	230
Manicouagan (to head of Racine de Bouleau).....	310	Leaf.....	165
Outarde.....	270		
Bersimis.....	240	Flowing into the Pacific Ocean	
Richelieu.....	210	Yukon (mouth to head of Nisutlin).....	1,979
St. Francis.....	165	Yukon (Int. Boundary to head of Nisutlin).....	714
Chaudière.....	120	Porcupine.....	590
Via the Great Lakes—		Lewes.....	338
French (to head of Sturgeon).....	180	Pelly.....	330
Sturgeon.....	110	Stewart.....	320
Grand.....	165	Macmillan.....	200
Thames.....	163	White.....	185
Spanish.....	153	Columbia (total).....	1,150
Trent.....	150	Columbia (in Canada).....	459
Mississagi.....	140	Kootenay (total).....	407
Nipigon (to head of Oniabika).....	130	Kootenay (in Canada).....	276
Moir.....	60	Fraser.....	850
Thessalon.....	40	Thompson (to head of North Thompson).....	304
St. John.....	418	North Thompson.....	210
Romaine.....	270	South Thompson (to head of Shuswap).....	206
Natashquan.....	241	Nechako.....	287
Moisie.....	210	Stuart (to head of Driftwood).....	258
Hamilton.....	208	Chilcotin.....	146
Exploits.....	153	West Road (Blackwater).....	141
Naskaupi.....	152	Skeena.....	360
Canairiktok.....	139	Bulkley (to head of Maxam Creek).....	160
Eagle.....	138	Stikine.....	335
Miramichi.....	135	Alsek.....	260
Marguerite.....	130	Nass.....	236
Gander.....	102		
Flowing into Hudson Bay		Flowing into the Arctic Ocean	
Nelson (to head of Bow).....	1,600	Mackenzie (to head of Finlay).....	2,635
Saskatchewan (to head of Bow).....	1,205	Peace (to head of Finlay).....	1,195
South Saskatchewan.....	865	Finlay.....	250
Red Deer.....	385	Smoky.....	245
Bow.....	315	Little Smoky.....	185
Belly.....	180	Parsnip.....	145
North Saskatchewan.....	760	Athabasca.....	765
Red (to head of Sheyenne).....	545	Pembina.....	210
Assiniboine.....	590	Liard.....	755
Souris.....	450	South Nahanni.....	350
Qu'Appelle.....	270	Petitot.....	295
Winnipeg (to head of Firesteel).....	475	Fort Nelson.....	260
English.....	330	Hay.....	530
Churchill.....	1,000	Peel (to head of Ogilvie).....	425
Beaver.....	305	Arctic Red.....	310
Koksoak (to head of Kaniapiskau).....	660	Slave.....	258
Kaniapiskau.....	575	Twitya.....	200
Severn (to head of Black Birch).....	610	Back.....	605
Albany (to head of Cat).....	610	Coppermine.....	525
Dubawnt.....	580	Anderson.....	430
		Horton.....	275

The outstanding lakes of Canada are the Great Lakes, though only parts of these are in Canadian territory. The International Boundary between Canada and the United States passes through Lakes Superior, Huron, St. Clair, Erie and Ontario. Details are given in Table 4.

4.—Elevations, Areas and Depths of the Great Lakes

Lake	Elevation Above Sea-level	Length	Breadth	Maximum Depth	Total Area	Area on Canadian Side of Boundary
	ft.	miles	miles	ft.	sq. miles	sq. miles
Superior.....	602.23	333	160	1,302	31,820	11,200
Michigan (U.S.A.).....	580.77	321	118	923	22,400	—
Huron.....	580.77	247	101	750	23,010	13,675
St. Clair.....	575.30	26	24	23	460	270
Erie.....	572.40	241	57	210	9,940	5,094
Ontario.....	245.88	193	53	774	7,540	3,727

There are no tides in the Great Lakes although considerable variation in water levels is occasioned by strong winds.

Other large lakes of Canada, ranging in area from 9,000 to 12,000 sq. miles, are Lake Winnipeg, Great Slave Lake and Great Bear Lake. Apart from these, notable for size, are innumerable lakes scattered over that major portion of Canada lying within the Canadian Shield. In an area of 6,094 sq. miles, accurately mapped, south and east of Lake Winnipeg, there are 3,000 lakes. In an area of 5,294 sq. miles, accurately mapped, southwest of Reindeer Lake in Saskatchewan, there are 7,500 lakes.

5.—Elevations and Areas of Principal Lakes, by Province

NOTE.—Areas given are for mean water levels. For those reservoirs and lakes for which two elevations are given, HW means high water, LW low water, and N normal level.

Province and Lake	Elevation	Area	Province and Lake	Elevation	Area
	ft.	sq. miles		ft.	sq. miles
Newfoundland—			Quebec—concluded		
Deer.....	12	24	Lower Seal.....	860	130
Gander.....	86	49	Mnnicouagan.....	..	110
Grand.....	270	140	Manuan.....	1,340	100
Melville.....	sea-level	1,133	Maricourt.....	..	110
Michikamau.....	1,660	566	Mattagami.....	615	88
Red Indian.....	500	65	Minto.....	..	485
Victoria.....	700	15	Mistassini.....	1,243	840
Nova Scotia—			Nichikun.....	1,760	150
Bras d'Or.....	tidal	360	Olga.....	635	50
New Brunswick—			Payne.....	..	230
Grand.....	tidal	65	Pipmakan.....	..	90
Quebec—			Pletipi.....	..	138
Abitibi (total, 350) part.....	868	55	Quinze, des.....	HW 867	55
Albanel.....	1,289	145	St. Francis, River St. Lawrence	N 857	
Baskatong (reservoir).....	HW 732 LW 677	109	(total, 83) part.....	LW 151	63
Bienville.....	..	392	St. John.....	N 153	
Burnt (Brûlé).....	1,203	56	St. Louis.....	LW 65	57
Cabonga (reservoir) (Kaka- bonga).....	HW 1,185 LW 1,169	66	St. Peter.....	N 67	130
Champlain (total, 360) part.....	95	18	Simard.....	856	59
Chibougamau.....	1,253	138	Timiskaming (total, 110) part.....	HW 593 N 584	55
Clearwater.....	790	410	Two Mountains.....	72	63
d'Iberville.....	..	260	Waswanipi.....	680	75
Evans.....	612	180	Ontario—		
Goeland.....	660	125	Abitibi (total, 350) part.....	868	295
Indian House.....	..	125	Dog.....	1,378	61
Kaniapiskau.....	1,850	210	Eagle.....	1,192	137
Kempt.....	1,372	63	Erie (total, 9,940) part.....	572	5,094
Kipawa.....	884	95	Huron, including Georgian Bay		
			(total, 23,010) part.....	581	13,675

5.—Elevations and Areas of Principal Lakes, by Province—continued

Province and Lake	Elevation	Area	Province and Lake	Elevation	Area
	ft.	sq. miles		ft.	sq. miles
Ontario—concluded			Manitoba—concluded		
Kesagami.....	..	90	Wekusko.....	840	64
La Croix (total, 55) part.....	1,181	25	Winnipeg.....	713	9,094
Long.....	1,025	75	Winnipegosis.....	831	2,086
Manitou, Kenora.....	1,215	60	Woods, Lake of the (total, 1,485) part (reservoir).	HW 1,062 LW 1,056	69
Mille Laes, Lac des.....	1,491	102			
Minnitaki.....	1,177	72	Saskatchewan—		
Nipigon.....	852	1,870	Amisk.....	964	168
Nipissing.....	643	330	Athabasca (total, 3,058) part.....	699	2,165
Ontario (total, 7,540) part.....	246	3,727	Besnard.....	1,294	72
Rainy (total, 345) part (reservoir).	HW 1,108 LW 1,103	275	Black Birch.....	1,517	54
Red.....	1,157	69	Candle.....	1,620	56
St. Clair (total, 460) part.....	575	270	Canoe.....	1,415	78
St. Francis, River St. Lawrence (total, 83) part.....	LW 151 N 153	20	Churchill.....	1,382	213
St. Joseph.....	1,219	187	Cold (total, 136) part.....	1,756	36
Sandy.....	1,190	270	Cree.....	1,641	446
Seul (reservoir).....	HW 1,172 LW 1,156	530	Cumberland.....	871	93
Simcoe.....	718	280	Deschambault.....	1,072	209
Stout, Berens River.....	1,039	50	Doré.....	1,506	248
Sturgeon, English River.....	1,342	110	Île à la Crosse.....	1,379	165
Superior (total, 31,820) part.....	602	11,200	Kamuchawie (total, 56) part.....	1,153	26
Timagami.....	962	90	Kipahigan (total, 59) part.....	963	30
Timiskaming (total, 110) part.....	HW 593 N 584	55	La Plonge.....	1,476	90
Trout, English River.....	1,294	156	La Ronge.....	1,198	450
Trout, Severn River.....	..	215	Last Mountain.....	1,608	89
Woods, Lake of the (total, 1,485) part (reservoir).	HW 1,062 LW 1,056	953	Loche, la.....	1,459	70
			Montreal.....	1,608	162
Manitoba—			Namew (total, 79) part.....	873	71
Athapuskow.....	951	104	Nemeiben.....	1,259	63
Atikameg.....	855	112	Peter Pond.....	1,382	302
Beaverhill.....	651	70	Primrose (total, 181) part.....	1,964	173
Cedar.....	829	537	Quill.....	1,704	236
Cormorant.....	840	134	Reindeer (total, 2,444) part.....	1,150	2,058
Cross Nelson River.....	679	274	Riou.....	..	75
Dauphin.....	853	200	Sisipuk (total, 99) part.....	915	26
Dog.....	815	64	Smoothstone.....	1,572	110
Etawnei.....	..	28	Snake.....	1,262	159
Gods.....	585	319	Tazin.....	1,130	156
Goose.....	935	53	Wollaston.....	1,300	796
Granville.....	850	181			
Island.....	744	550	Alberta—		
Kamuchawie (total, 56) part.....	1,153	30	Athabasca (total, 3,058) part.....	699	893
Kipahigan (total, 59) part.....	963	29	Beaverhill.....	2,202	80
Kiskitito.....	696	65	Biche, la.....	1,784	94
Kiskittogisu.....	709	99	Buffalo.....	2,666	56
Kississing.....	920	141	Calling.....	1,947	55
Manitoba.....	813	1,817	Claire.....	699	545
Molson.....	..	154	Cold (total, 136) part.....	1,756	100
Moose.....	838	525	Lesser Slave.....	1,893	461
Namew (total, 79) part.....	873	8	Mamawi.....	699	64
Northern Indian.....	725	150	Peerless.....	2,267	75
Nueltin (total, 336) part.....	..	76	Primrose (total, 181) part.....	1,964	8
Oxford.....	612	155	Sullivan (variable).....	2,652	62
Paint.....	615	54	Utikuma.....	2,105	85
Pelican, west of Lake Winnipegosis.....	837	80			
Playgreen.....	711	257	British Columbia—		
Red Deer, west of Lake Winnipegosis.....	862	86	Adams.....	1,334	52
Reed.....	911	78	Atlin (total, 308) part.....	2,200	307
Reindeer (total, 2,444) part.....	1,150	388	Babine.....	2,330	194
St. Martin.....	798	125	Chilko.....	3,842	75
Setting.....	737	49	Eutsuk.....	2,817	96
Sipiwek.....	598	201	François.....	2,345	91
Sisipuk (total, 99) part.....	915	73	Harrison.....	34	87
Southern Indian.....	835	1,050	Kootenay.....	1,741	168
Stevenson.....	..	75	Kotcho (unsurveyed and estimated).....	..	90
Swan.....	849	100	Lower Arrow.....	1,379	59
Talbot.....	845	72	Okanagan.....	1,123	136
Todatara (total, 241) part.....	..	156	Ootsa.....	2,666	50
Walker.....	1,121	62	Quesnel.....	2,375	100
Waterhen.....	829	90	Shuswap.....	1,137	120
			Stuart.....	2,225	139
			Tagish (total, 138) part.....	2,148	83
			Takla.....	2,270	102
			Teslin (total, 161) part.....	2,250	65
			Upper Arrow.....	1,395	88

5.—Elevations and Areas of Principal Lakes, by Province—concluded

Territory and Lake	Elevation ft.	Area sq. miles	Territory and Lake	Elevation ft.	Area sq. miles
Northwest Territories—			Northwest Territories—concluded		
Aberdeen.....	130	475	Martre, la.....	..	685
Artillery.....	1,190	207	Nueltin (total, 336) part.....	..	260
Aylmer.....	1,230	340	Nutarawit.....	..	350
Baker.....	30	975	Pelly.....	..	331
Clinton-Colden.....	1,226	253	Point.....	..	295
Dubawnt.....	500	1,600	Rae.....	748	74
Faber.....	753	163	Schultz.....	115	110
Franklin.....	..	175	Thaalintoo.....	..	160
Garry.....	..	980	Todataro (total, 241) part.....	..	85
Gras, de.....	1,300	345	Yathkyed.....	300	860
Great Bear.....	391	12,000			
Great Slave.....	495	11,170	Yukon Territory—		
Hardisty.....	699	107	Aishihik.....	..	107
Hottah.....	..	377	Atlin (total, 308) part.....	2,200	1
Kaminuriak.....	320	360	Kluane.....	2,500	184
Maddougall.....	..	265	Kusawa.....	2,565	56
Mackay.....	1,415	250	Laberge.....	2,100	87
Maguse.....	..	540	Tagish (total, 138) part.....	2,148	45
Marian.....	495	90	Teslin (total, 161) part.....	2,250	96

Subsection 3.—Coastal Waters

The coastline of Canada, one of the longest of any country in the world, comprises the following estimated milages:—

Mainland—

Atlantic, 6,110; Pacific, 1,580; Hudson Strait, 1,245; Hudson Bay, 3,155; Arctic, 5,770; total, 17,860 miles.

Islands—

Atlantic, 8,680; Pacific, 3,980; Hudson Strait, 60; Hudson Bay, 2,305; Arctic, 26,785; total, 41,810 miles.

A comprehensive description of the coastal waters of Canada would require information from sciences such as oceanography, marine biology and meteorology. However, the basic factor in any study of the oceanic-continental margin is the physical relief of the sea floor and the scope of the information presented here is therefore restricted to this and a few salient features of the Atlantic, Arctic and Pacific marginal seas surrounding Canada. Further details are given in the 1947 Year Book, pp. 3-12.

Atlantic.—Along this coastal area, the sea has inundated valleys and lower parts of the Appalachian Mountains as well as those of the Canadian Shield. The submerged Continental Shelf, protruding seaward from the shore, effects the transition from continental to oceanic conditions. This Shelf is distinguished by great width and diversity of relief. From the coast of Nova Scotia its width varies from 60 to 100 miles, from Newfoundland 120 to 50 miles (at the entrance of Hudson Strait), and northward it merges with that of the Arctic Ocean. The outer edge of the Shelf, known as the Continental Shoulder, is of varying depths of from 100 to 200 fathoms before the Shelf suddenly gives way to the steep declivity leading to abyssal depths. The over-all gradient of the Atlantic Continental Shelf is slight but the whole area is studded with shoals, plateaux, banks, ridges and islands and the coasts of Nova Scotia and Newfoundland are rugged and fringed with islets and shoals. Off Nova Scotia the 40-fathom line lies at an average of 12 miles from the shore and constitutes the danger line for coastal shipping. The whole floor of the marginal sea appears to be traversed by channels and gullies cutting well into the Shelf.

The main topographical features of the Atlantic marginal sea floor are attributed to glacial origin but land erosion is an important factor. Eroded materials are carried seaward by rivers, ice and wind, and wave action against cliffs and shore banks washes away enormous masses that are deposited over the surrounding sea floor. The topography of the continental sea floor is therefore constantly changing and navigation charts of Canada's eastern seaboard must be continuously revised.

Arctic.—The submerged plateau protruding from the northern coast of North America is a major part of the Great Continental (or Polar) Shelf surrounding the Arctic Ocean on which lie all the Arctic islands of Canada, Iceland, Greenland and most of those of Europe and Asia. This Shelf develops its maximum width on the 80th meridian of west longitude where it extends from the south of James Bay to the north coast of Ellesmere Island, a distance of over 2,000 miles.

The floor topography of this continental margin is largely unexplored but sufficient has been charted to indicate an abrupt break at the northern oceanward edge. This steep continental terrace borders the whole western side of the Canadian Archipelago and constitutes one of the most striking and significant features of the Polar regions. From this declivity, deep well-developed troughs cut by glaciers enter between the western group of islands. A ridge across Davis Strait on which the depth is about 200 fathoms separates this basin from the open Atlantic.

Hudson Bay and Hudson Strait bite deeply into the Continent. Hudson Bay is an inland sea 250,000 sq. miles in area having an average depth of about 70 fathoms; the greatest charted depth in the centre of the Bay is 141 fathoms.

Hudson Strait separates Baffin Island from the continental coast and connects Hudson Bay with the Atlantic Ocean. It is 430 miles long and from 37 to 120 miles wide and its greatest charted depth of 481 fathoms is close inside the Atlantic entrance. Great irregularities of the sea floor are indicated but, except in inshore waters, few navigation hazards have been located.

The composition and resources of that part of the Shelf offshore and north of the Queen Elizabeth Islands is to be the subject of extensive study. In 1959 the Canadian weather station at Isachsen on Ellef Ringnes Island will be the headquarters for a reconnaissance survey extending as far as Meighen Island on the east and Borden Island on the west. In the following two years experts will probe through the permanent polar ice to determine the dimensions of the Shelf offshore, believed to extend from 80 to 150 miles out to sea. In addition such other data as the nature of currents and composition of the Shelf itself will be explored.

Pacific.—The marginal sea of the Pacific differs strikingly from the other marine zones of Canada. The hydrography of British Columbia is characterized by bold, abrupt relief—a repetition of the mountainous landscape. Numerous inlets penetrate the mountainous coast for distances of 50 to 75 miles. They are usually a mile or two in width and of considerable depth, with steep canyon-like sides. From the islet-strewn coast, the Continental Shelf extends from 50 to 100 sea miles to its oceanward limit where depths of about 200 fathoms are found. There the sea floor drops rapidly to the Pacific Deep, parts of the western slopes of Vancouver Island and the Queen Charlotte Islands lying only four miles and one mile respectively from the edge of the declivity. These great detached land masses are the dominant features of the Pacific marginal sea. As is to be expected in a region so irregular in hydrographic relief, shoals and pinnacle rocks are numerous, necessitating cautious navigation. A grave menace to coastal shipping plying the Seymour Narrows between Vancouver Island and the mainland was eliminated on Apr. 5, 1958, when the twin peaks were blasted off Ripple Rock in one of the largest non-atomic explosions created by man. The peaks had reached to within 9 feet and 21 feet of the surface during low water, and had been responsible for the sinking and damaging of some 114 vessels during the past 80 years. Their presence caused treacherous disturbances and whirlpools to form as the ocean tides rushed through the Narrows, and only the most highly powered vessel would attempt to navigate the channel during any period other than the 20 to 40 minutes of slack water between tides. The blast increased the clearance to 47 feet and 69 feet at low water and the channel is now navigable at all times.

Subsection 4.—Islands

The largest islands of Canada are in the north and all experience an Arctic climate. The northern group extends from the islands in James Bay to Ellesmere Island which reaches 83°07'N. Those in the District of Franklin lie north of the mainland of Canada

and are generally referred to as the Canadian Arctic Archipelago; those in the extreme north—lying north of the M'Clure Strait—Viscount Melville Sound—Barrow Strait—Lancaster Sound water passage—are known as the Queen Elizabeth Islands.

On the West Coast, Vancouver Island and the Queen Charlotte Islands are the largest and the most important but the coastal waters are studded with many small rocky islands.

The Island of Newfoundland forming part of the Province of Newfoundland, the Province of Prince Edward Island, Cape Breton Island forming part of the Province of Nova Scotia, Grand Manan and Campobello Islands forming part of the Province of New Brunswick, and Anticosti Island and the Magdalen group included in the Province of Quebec are the chief islands off the East Coast.

Notable islands of the inland waters include Manitoulin Island (1,068 sq. miles in area) lying in Lake Huron, the so-called Thirty Thousand Islands of Georgian Bay and the Thousand Islands in the outlet from Lake Ontario into the St. Lawrence River.

6.—Islands over 2,000 Square Miles in Area

Island	Area	Island	Area
	sq. miles		sq. miles
Arctic Ocean—		Arctic Ocean—concluded	
Baffin.....	183,810	Prince Charles.....	3,500
Ellesmere.....	82,119	Cornwallis.....	2,670
Victoria.....	81,930	Amund Ringnes.....	2,515
Banks.....	23,230		
Devon.....	20,861	Atlantic Ocean—	
Melville.....	16,141	Newfoundland.....	42,734
Axel Heiberg.....	15,779	Cape Breton.....	3,970
Southampton.....	15,700	Anticosti (Gulf of St. Lawrence).....	3,043
Prince of Wales.....	12,830	Prince Edward.....	2,184
Somerset.....	9,370		
Prince Patrick.....	6,081	Pacific Ocean—	
Bathurst.....	6,041	Vancouver.....	12,408
Ellef Ringnes.....	5,139		
King William.....	4,870		
Bylot.....	4,200		

Subsection 5.—Mountains and Other Heights

The predominant geographical feature in Canada is the Great Cordilleran Mountain System which contains many peaks over 10,000 feet in height. The highest peak in Canada is Mount Logan in the St. Elias Mountains of Yukon Territory, which rises 19,850 feet above sea level. The highest elevations in all parts of the country are shown in Table 7 in feet above mean sea level. More accurate measuring devices have, in recent years, brought to light discrepancies in the elevations listed in previous editions of the Year Book. Table 7 records the latest available data.

7.—Principal Heights in each Province and Territory

NOTE.—Certain peaks, indicated by an asterisk (*), form part of the line of demarcation between political subdivisions. Although their bases technically form part of both areas, they are listed only under one to avoid duplication. This table has undergone considerable revision since publication in previous editions of the Year Book.

Province and Height	Elevation	Province and Height	Elevation
	ft.		ft.
Newfoundland		Newfoundland—concluded	
Long Range—		Central Highlands—	
Blow Me Down Mountain.....	3,500	Main Topsail.....	1,822
Gros Morne.....	2,651	Mizzen Topsail.....	1,761
Mount St. Gregory.....	2,338	Torngats—	
Gros Paté.....	2,115	Cirque Mountain.....	5,500
Blue Mountain.....	2,085	Mount Eliot.....	4,560
Table Mount.....	1,700	Mount Petragona.....	4,510
Blue Hills of Coteau—		Mount Razorback.....	3,680
Peter Snout.....	1,690	Mount Sir Donald.....	1,890
Butter Pot.....	950	Cape Chidley.....	1,500
Red Hill.....	700	Kaumajets—	
		Bishop's Mitre.....	2,250

7.—Principal Heights in each Province and Territory—continued

Province and Height	Elevation	Province and Height	Elevation
	ft.		ft.
Nova Scotia		Alberta—concluded	
Ingonish Mountain.....	1,392	Rockies—concluded	
Creignish Hills (at Creignish).....	850	*Mount Lyell.....	11,495 ¹
Cobequid Mountains (at E. Mapleton).....	840	*Mount Hungabee.....	11,457 ¹
North Mountain (4 miles NE. of Annapolis).....	590	Mount Athabasca.....	11,452
South Mountain (at Annapolis).....	515	*Mount King Edward.....	11,400 ¹
New Brunswick		Stutfield.....	11,400
Mount Carleton.....	2,690	Mount Brazeau.....	11,386
Green Mountain.....	1,596	*Mount Victoria.....	11,365 ¹
Moose Mountain.....	1,490	*The Snow Dome.....	11,340 ¹
Quebec		*Mount Joffre.....	11,316 ¹
Appalachians—		*Mount Deltaform.....	11,235 ¹
Mount Jacques Cartier (Shickshocks).....	4,160	*Mount Lefroy.....	11,230 ¹
Mount Richardson.....	3,885	*Mount Alexandra.....	11,214 ¹
Barn Mountain.....	3,775	*Mount Sir Douglas.....	11,174 ¹
Mount Logan.....	3,700	Woolley.....	11,170
Mégantic Mountain.....	3,625	*Lunette Peak.....	11,150 ¹
Mount Albert.....	3,550	Mount Hector.....	11,135
Bayfield Mountain.....	3,470	Diadem Peak.....	11,060
Mattawa Mountain.....	3,370	Mount Edith Cavell.....	11,033
Roundtop (Sutton Mountains).....	3,175	Mount Chown.....	10,930
Hereford Mountain.....	2,760	Mount Wilson.....	10,631
Orford Mountain.....	2,750	Clearwater Mountain.....	10,420
Pinnacle Mountain.....	2,150	Mount Coleman.....	10,262
Brome Mountain.....	1,800	Eiffel Peak.....	10,101
Shefford Mountain.....	1,725	Pinnacle Mount.....	10,072
Shield—		Mount Fryatt.....	10,026
Mount Tremblant.....	3,150	Mount Rundle.....	9,838
Mount Ste. Anne.....	2,625	The Three Sisters.....	9,744
Monteregian Hills—		Mount Eisenhower.....	8,750
St. Hilaire Mountain.....	1,350	Mount Edith.....	8,370
Yamaska Mountain.....	1,350	British Columbia	
Rougemont.....	1,200	Vancouver Island Range—	
Mount Johnson.....	750	Mount Albert Edward.....	6,968
Mount Royal.....	750	Mount Arrowsmith.....	5,960
Ontario		Coast Range—	
Tip Top Hill.....	2,120	Mount Waddington.....	13,260
Mount Batchawana.....	2,100	Tiedemann.....	12,000
Niagara Escarpment—		Mount Tatlow.....	10,050
Osler Bluff.....	1,700	Skihist Mountain.....	9,660
Caledon Mountain.....	1,400	Crown Mountain.....	6,060
Blue Mountain.....	1,250	St. Elias Mountains—	
High Hill.....	1,150	*Mount Fairweather.....	15,300 ²
Mount Nemo.....	1,000	*Mount Root.....	12,860 ²
Manitoba		Columbia Mountains—	
Duck Mountain.....	2,727	Monashee—	
Porcupine Mountain.....	2,700	Mount Begbie.....	8,956
Riding Mountain.....	2,000	Storm Hill.....	5,300
Saskatchewan		Selkirk—	
Cypress Hills (Summit).....	4,810	Mount Sandford.....	11,590
Wood Mountain (West Summit).....	3,371	Mount Wheeler.....	11,033
Wood Mountain (East Summit).....	3,347	Selwyn.....	11,023
Vermilion Hills.....	2,500	Mount Dawson.....	11,020
Alberta		Adamant Mountain.....	10,980
Rockies—		Grand Mountain.....	10,842
*Mount Columbia.....	12,294 ¹	Mount Sir Donald.....	10,818
The Twins (N. Peak).....	12,085	Iconoclast Mountain.....	10,630
Mount Forbes.....	11,902	Mount Rogers.....	10,525
Mount Alberta.....	11,874	Purcells—	
*Mount Assiniboine.....	11,701 ¹	Mount Delphine.....	11,076
The Twins (S. Peak).....	11,675	Nelson Peak.....	10,772
Mount Temple.....	11,636	Rockies—	
Mount Kitchener.....	11,500	Mount Robson.....	12,972
		Clemenceau.....	12,001
		Mount Goodsir.....	11,686
		Mount Bryce.....	11,507
		Resplendent.....	11,240
		Mount King George.....	11,226
		Consolation.....	11,200
		The Helmet.....	11,160
		Whitehorn Mountain.....	11,101
		Mount Huber.....	11,051
		Geikie.....	11,016

For footnotes, see end of table, p. 12.

7.—Principal Heights in each Province and Territory—concluded

Province or Territory and Height	Elevation	Territory and Height	Elevation
	ft.		ft.
British Columbia—concluded		Yukon Territory—concluded	
Rockies—concluded		St. Elias Mountains—concluded	
Bush.....	11,000	*Mount Vancouver.....	15,700 ³
Freshfield.....	10,945	*Mount Hubbard.....	14,950 ³
Mount Mummery.....	10,918	Mount Walsh.....	14,780
Mount Vaux.....	10,881	*Mount Alverstone.....	14,500 ³
*Mount Ball.....	10,865 ¹	McArthur Peak.....	14,400
Mount Sir Alexander.....	10,740	Mount Augusta.....	14,070
Churchill Peak.....	10,500	Strickland.....	13,818
Mount Stephen.....	10,495	Mount Newton.....	13,811
Cathedral Mountain.....	10,464	Mount Cook.....	13,760
Mount Gordon.....	10,346	Mount Craig.....	13,250
President.....	10,287	Badham.....	12,625
Mount Odaray.....	10,175	Mount Malaspina.....	12,150
Mount Laussedat.....	10,035	Mount Jannette.....	11,700
Mount Burgess.....	8,473	Baird.....	11,375
		Mount Seattle.....	10,070
Yukon Territory		Northwest Territories	
St. Elias Mountains—		Franklin Mountains—	
Mount Logan.....	19,850	Mount Delthore.....	6,800
*Mount St. Elias.....	18,008 ²	Mount Clark.....	4,733
Mount Lucania.....	17,150	Mount Rawlinson.....	5,000
King Peak.....	17,130	Nelson Head.....	1,000
Mount Steele.....	16,440	Mount Pelly.....	675
Mount Wood.....	15,880		

¹ Part of the Alberta-British Columbia boundary.² Part of the Yukon-Alaska boundary.³ Part of the British Columbia-Alaska boundary.

Section 2.—Physical and Economic Features of the Provinces and Territories

Politically Canada is divided into ten provinces and two territories. Each of the provinces is sovereign in its own sphere, as set out in the British North America Act of 1867 and its amendments, and as new provinces have been organized (*see* p. 59) they have been granted political status equivalent to that of the original provinces. The Yukon and Northwest Territories, with their present boundaries, are administered by the Federal Government. The main physical and economic features of each of the provinces and of the territories are described briefly in the 1956 Canada Year Book at pp. 12-17. In the present edition, the physical characteristics of the provinces and territories are covered very adequately in their relation to climate in the special article on The Climate of Canada at pp. 23-51. Details of resources and their development are given in later chapters.

THE ATLAS OF CANADA PROJECT*

An Atlas of Canada, published by the Federal Government, became available for distribution in December 1958.† Its antecedents go back to 1905 when the first such reference atlas was produced. A revised edition appeared ten years later but the need for another revision has long been felt. In 1937 the Canadian Committee of the International Geographical Union suggested that a new atlas be produced. The matter was ultimately referred to the Canadian Social Science Research Council which in 1945 published a report on the need for and the desired scope of such an atlas, concluding that the project could be undertaken only by the Federal Government. The Government's decision to implement the recommendations of the report came in December 1948, placing with the Geographical Branch of the Department of Mines and Technical Surveys the responsibility of over-all co-ordination.

Since the new Atlas of Canada, like its predecessors, was envisaged as a presentation of the broader aspects of geography, covering a wide variety of topics and serving highly specialized needs, it was recognized that many other departments of the Federal Govern-

* Prepared by N. L. Nicholson, Director of the Geographical Branch, Department of Mines and Technical Surveys, Ottawa.

† Available from the Queen's Printer, Ottawa, price \$25.

ment, in addition to provincial and private individuals, would be involved in its production. An interdepartmental advisory committee was therefore set up under the chairmanship of the Director General of Scientific Services in the Department of Mines and Technical Surveys; other members represented the Departments of Agriculture, Trade and Commerce, Transport, Northern Affairs and National Resources, National Defence, Fisheries, and the Public Archives of Canada. Sub-committees were also organized in every department concerned and through them recommendations on the subject matter to represent their particular disciplines were obtained. By 1954 the planning stages had been completed and the formal committees were disbanded.

The first step of actual production was to prepare suitable base maps. These were constructed according to the Lambert Conformal Conic projection with 77° and 49° as the standard parallels, modified north of 80°N . Maps of the whole country on one sheet of the Atlas were drawn on a scale of 1:10M (approximately 158 miles to one inch); a second scale, 1:20M, enabled several maps of Canada to be shown on a single sheet; a third scale 1:5M was used for maps of the northern, eastern and western sections of the country; and a fourth basic scale, 1:2½M, was used for regional maps of smaller areas. Thus all maps in the Atlas are on scales that bear a simple numerical relationship to one another. While these were being prepared, the material to be printed on the bases was being collected, interpreted and compiled, and in 1955 the first sheet was sent for printing.

The individual sheets of the Atlas have been arranged so that, when read in sequence, the maps characterize and give meaning to the internal development of the country and, to some extent, its international relations. Thus the first three sheets in the Atlas take the reader back to the origins of the country. One shows the routes taken by the principal explorers and the other two show portions of the original early maps which resulted from explorations. From the old maps, the Atlas proceeds to modern mapping, with examples of present-day topographical sheets and aeronautical and hydrographic charts, and thence to maps of the physical aspects of Canada's geography such as relief, geology, climate, soil and vegetation. Plates 46 to 57 are concerned with human resources and show such data as the distribution of population, origins of the people, principal religions, and birth, marriage and death rates. Plates 58 to 91 deal with the ways in which the people have used the physical resources and include maps of fisheries, sawmills, the distribution of farm animals and crops, mining, power and manufacturing as well as the transportation and communication networks which have developed as a result of such activities. The next 17 plates show the way in which institutions—such as hospitals and universities—and towns, cities and rural municipalities have become distributed as a result of physical environment and economic activities. Plate 109 shows the political evolution of Canada from colonial times to the present while Plate 110, the final sheet in the Atlas, shows some of Canada's international political affiliations.

PART II.—LAND RESOURCES AND PUBLIC LANDS

Section 1.—Land Resources

Information currently available regarding Canada's vast land resources is shown in Table 1, where the land area is classified as occupied agricultural, forested and 'other' land, the latter including urban land, road allowances, grass and brush land and all waste land such as open muskeg, swamp and rock. Soil surveys now under way by the Department of Agriculture will make it possible in the future to estimate the amount of arable land Canada possesses and, as provincial inventories are completed, more information will be available regarding land now non-forested but not productive in an agricultural sense. The Forestry Branch of the Department of Northern Affairs and National Resources estimates that about 45 p.c. of the land area of Canada is forested and, according to the Census of 1956, less than 8 p.c. is classed as occupied farm land. A great part of the 1,706,421 sq. miles of 'other' land is located in the Yukon and Northwest Territories which together have a land area of 1,458,784 sq. miles. The occupied farm land in these Territories is practically nil and the forested area is estimated at 275,800 sq. miles.

1.—Land Area Classified as Occupied Agricultural or Forested, by Province

NOTE.—Figures for occupied agricultural land were obtained from the 1956 Census; areas of forested land were compiled by the Forestry Branch, Department of Northern Affairs and National Resources from estimates supplied by the Forest Service in each province.

Description	New-found-land	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Yukon and N.W.T.	Canada
	sq. miles	sq. miles	sq. miles	sq. miles	sq. miles	sq. miles	sq. miles	sq. miles	sq. miles	sq. miles	sq. miles	sq. miles
Occupied Agricultural Land—												
Improved—												
Crops and summerfallow.....	25	659	655	985	8,776	13,365	16,427	60,428	34,284	1,215	1	136,819
Pasture.....	9	314	252	335	4,129	5,423	929	1,763	2,000	500	1	15,715
Other.....	4	86	77	106	879	856	540	1,100	820	108	1	4,225
Unimproved—												
Forest (woodland) ¹	42	522	2,447	2,662	7,622	5,217	2,448	3,717	4,817	1,337	1	30,532
Other.....	32	134	906	510	3,764	6,201	7,674	31,108	30,208	3,932	5	84,464
Totals, Occupied Agricultural Land....	112	1,665	4,337	4,658	24,860	31,062	23,018	98,116	71,829	7,092	7	271,756
Forested Land—												
Softwood—												
Merchantable.....	25,735	78	7,270	6,312	117,825	57,389	14,584	9,530	13,770	80,330	35,200	368,023
Young growth.....	3,389	156	789	2,895	44,980	34,331	20,434	3,048	16,180	87,736	10,000	224,018
Mixedwood—												
Merchantable.....	128	133	5,488	7,319	22,753	23,242	5,006	6,006	12,367	—	19,800	102,812
Young growth.....	986	122	468	2,047	20,343	30,760	3,569	6,894	10,717	—	3,800	32,081
Hardwood—												
Merchantable.....	31	12	639	2,550	7,230	4,582	1,231	7,230	4,582	2,945	4,700	36,748
Young growth.....	236	11	45	1,985	5,994	15,958	4,839	3,205	12,808	7,953	2,500	54,604
Unclassified ²	—	2	427	2,336	6,555	—	3,011	4,241	48,030	28,397	—	91,999
Totals, Productive Forested Land.....	30,505	544	15,106	23,808	220,275	168,961	58,667	39,844	118,464	208,411	75,700	900,285
Non-productive Forested Land³.....	53,267	—	1,283	522	157,738	48,691	64,638	77,906	43,009	5,154	200,100	652,308
Totals, Forested Land.....	83,772	544	16,389	24,330	378,013	217,652	123,305	117,750	161,473	213,565	275,800	1,612,593
Net Productive Land⁴.....	30,575	1,637	16,996	25,804	237,513	194,806	84,237	134,243	185,776	214,166	75,706	1,201,509
Other Land⁵.....	59,203	497	2,123	1,509	128,609	100,595	67,900	8,033	20,015	139,959	1,182,978	1,706,421
Totals, Land Area⁶.....	143,045	2,184	20,402	27,835	523,860	344,092	211,775	220,182	248,800	359,279	1,458,784	3,560,238

¹ Less than one square mile.

² Included in *Forested Land*; duplication eliminated in the item *Net Productive Land*.

³ Includes areas of recent burn, cut-over or windfall, not yet restocked.

⁴ Areas incapable of producing crops of merchantable timber because of adverse climatic, soil or moisture conditions.

⁵ Includes only occupied agricultural land (less forest woodland) plus productive forested land.

⁶ Comprises all urban land, road allowances, grass and brush land and all waste land such as open muskeg, swamp and rock.

⁷ *Net Productive Land* plus *Non-productive Forested Land* plus *Other Land*.

Section 2.—Public Lands

In Table 2 classifying the area of Canada by tenure, items 2, 3, 4 and 5 are obtained from Federal Government sources and items 1, 6, 7 and 8 from Provincial Government sources.

2.—Total Area classified by Tenure (circa) 1958

Item	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.
	sq. miles	sq. miles	sq. miles	sq. miles	sq. miles	sq. miles
1. Privately owned land or land in process of alienation from the Crown.....	6,713	2,059	17,005	16,480	43,500	41,251
2. Federal lands other than leased lands, National Parks, Indian reserves and forest experiment stations.....	936	110	195	776	352 ¹	2,300
3. National Parks.....	156	7	368	80	2	12
4. Indian reserves.....	—	4	30	59	279	2,436
5. Federal forest experiment stations.....	—	—	—	35	7	97
6. Provincial lands other than Provincial Parks and provincial forest reserves.....	148,208	2 ²	3,827	10,666	508,138	341,761
7. Provincial Parks.....	55	—	2	—	36,264	5,199
8. Provincial forest reserves.....	117	2	—	258	6,320	19,526
Totals.....	156,185	2,184	21,425	28,354	594,860	412,582
	Man.	Sask.	Alta.	B.C.	Yukon and N.W.T.	Canada
	sq. miles	sq. miles	sq. miles	sq. miles	sq. miles	sq. miles
1. Privately owned land or land in process of alienation from the Crown.....	45,968	104,400	89,320	19,127	71	385,894
2. Federal lands other than leased lands, National Parks, Indian reserves and forest experiment stations.....	5,236	7,145	5,446	691	1,508,274 ⁴	1,531,461
3. National Parks.....	1,148	1,496	20,717 ⁵	1,671	3,625 ⁶	29,280
4. Indian reserves.....	819	1,884	2,416	1,282	9	9,218
5. Federal forest experiment stations.....	7	—	47	—	—	186
6. Provincial lands other than Provincial Parks and provincial forest reserves.....	191,475	14,329	128,599	287,425	—	1,634,430
7. Provincial Parks.....	968 ³	1,705	121	13,151	—	57,463
8. Provincial forest reserves.....	5,388 ³	120,741	8,619	42,908	—	203,877
Totals.....	251,000	251,700	255,255	366,255	1,511,979	3,851,809

¹ Includes Gatineau Park (86 sq. miles) and Quebec Battlefields Park (0.36 sq. mile) which are under federal jurisdiction but are not technically National Parks. ² Less than one square mile. ³ Includes an area of less than one square mile set aside as a Provincial Park but not yet developed. ⁴ Includes 952,849 sq. miles set aside by Order in Council as native game preserves in which only Indians and Eskimos may hunt, but which are not regarded as National Parks. ⁵ Includes Wood Buffalo Park (13,675 sq. miles) which, although reserved by the Federal Government, is not administered as a National Park. ⁶ That part of Wood Buffalo Park in N.W.T. ⁷ A forest experiment area of 25 sq. miles is included in National Parks figure. ⁸ Provincial forest reserves are also used to some extent as recreational areas.

Subsection 1.—Federal Public Lands

Public lands under the administration of the Federal Government comprise lands in the Northwest Territories including the Arctic Archipelago and the islands in Hudson Strait, Hudson Bay and James Bay, lands in Yukon Territory, Ordnance and Admiralty Lands, National Parks and National Historic Sites, Forest Experiment Stations, Experimental Farms, Indian reserves and in general all public lands held by the several Departments of the Federal Government for various purposes connected with federal administration. These lands are administered under the Territorial Lands Act (R.S.C. 1952, c. 263) and the Public Lands Grants Act (R.S.C. 1952, c. 224) which became effective June 1, 1950, and replaced previous legislation.

The largest areas under federal jurisdiction are in the Northwest Territories and Yukon Territory where only 71 sq. miles of a total area of 1,511,979 sq. miles are privately owned. This part of the national domain, with the exception of the islands in Hudson Bay and James Bay, is all north of the 60th parallel of latitude and occupies about 40 p.c. of the surface of Canada. It is under the administration of the Northern Administration and Lands Branch of the Department of Northern Affairs and National Resources.

Subsection 2.—Provincial Public Lands

Public lands of Nova Scotia, New Brunswick, Quebec, Ontario and British Columbia (except the Railway Belt and Peace River Block) have been administered since Confederation by the Provincial Governments. In 1930 the Federal Government transferred the unalienated portions of the natural resources of Manitoba, Saskatchewan, Alberta and of sections of British Columbia to the respective governments and all unalienated lands in the Province of Newfoundland, except those administered by the Federal Government, became provincial public lands under the Terms of Union on Mar. 31, 1949. All land in the Province of Prince Edward Island has been alienated except 125 sq. miles under federal and provincial administration.

Information regarding provincial public lands may be obtained from the respective provinces. (See the Directory of Sources of Official Information, Chapter XXVII, under "Lands".)

Subsection 3.—National and Provincial Parks

The future of Canada in the field of outdoor recreation is being wisely provided for by the establishment of National and Provincial Parks. Many of these parks are easily accessible by highway, rail or air and offer every type of accommodation from camping facilities to cabins and palatial hotels. A wide variety of summer and winter recreational attractions are available in mountain, lakeland, woodland and seaside areas of exceptional scenic beauty.

The extent of the park areas in each province is given in Table 2 on p. 15; location, year of establishment, area, and main characteristics of each National Park are given in Table 3, which is followed by a brief description of the Provincial Parks.

National Parks.—From 1885, when the first National Park was established around the mineral hot springs at Banff, Alta., until 1958, 18 areas covering more than 29,000 sq. miles have been established as National Parks.

These parks are maintained by the Federal Government for the protection of their flora, fauna and natural phenomena, for the preservation of their scenic beauty and interest and, in some, the marking of their historical significance in the building of the nation. They are supervised by the National Parks Branch, Department of Northern Affairs and National Resources and are developed and maintained in such a manner as to provide perpetual inspiration, education and healthful recreation for present and future generations.

The National Parks are Canada's greatest single tourist attraction. Accommodation in privately owned hotels, cabins, chalets, lodges and cottages is available and modern cabins have been built in several of the parks by the National Parks Administration

to afford low-rental accommodation for park visitors. Recreational facilities include equipped camp grounds, some with trailer-park facilities; golf courses in superb scenic settings; tennis courts; bowling greens; well-equipped children's playgrounds; athletic fields; horseshoe pitches; outdoor checker-boards; and, in some of the parks, heated outdoor swimming pools with dressing-room buildings, and amphitheatres where plays, concerts and film shows are held in the open. For winter sports there are downhill and slalom ski courses, ski jumps, ski tows and, at Banff, a chairlift.

A park warden service protects the forests and wildlife and maintains constant vigilance for the safety and comfort of visitors. Stocking and transfer of game fish are carried out extensively and successfully in order to improve angling opportunities in park waters; fish hatcheries are operated in three of the mountain National Parks. The Scientific Management of Game Fish in Canada's National Parks is the subject of a special article on pp. 35-39 of the 1956 Year Book. Two of the National Parks are largely big-game preserves where herds of buffalo and other animals find sanctuary.

In addition to the scenic, recreational and wild animal parks, Canada has 14 national historic parks. The National Parks Branch of the Department of Northern Affairs and National Resources is also responsible for the marking, preservation and restoration of places of great historic interest in Canada. More than 525 such sites have been marked on the recommendation of the Historic Sites and Monuments Board of Canada.

3.—Location, Year Established, Area and Characteristics of National Parks

Park	Location	Year Estab- lished	Area sq. miles	Characteristics
Scenic, Recreational and Animal Parks				
Terra Nova.....	On Bonavista Bay, Newfoundland, 150 miles north of St. John's.	1957	156.0	Maritime area now under development; rocky headlands, wooded areas with abundant wildlife, off-shore and fresh-water fishing.
Prince Edward Island..	North shore of Prince Edward Island.	1937	7.0	Strip 25 miles long on shores of the Gulf of St. Lawrence. Recreational area, fine bathing beaches. Accessible by highway. Hotel and bungalow cabin accommodation. Equipped camp grounds.
Cape Breton Highlands.	Northern part of Cape Breton Island, N.S.	1936	367.2	Rugged Atlantic coast line with mountain background. Fine seascapes. Recreational opportunities. Hotel and bungalow cabin accommodation. Equipped camp grounds.
Fundy.....	On Bay of Fundy between Moncton and Saint John in New Brunswick.	1948	79.5	Delightful recreational area. Forested region, wildlife sanctuary, rugged terrain. Bungalow cabin accommodation. Equipped camp grounds.
Georgian Bay Islands..	In Georgian Bay, north of Midland, Ont.	1929	5.4	Recreational and camping area. Unique pillars on Flowerpot Island. Accessible by boat from nearby mainland points. Equipped camp grounds and annual youth camps on Beausoleil Island.
Point Pelee.....	On Lake Erie in south-western Ontario.	1918	6.0	Recreational area. Remarkable beaches, southern flora. Resting place for migratory birds. Accessible by highway. Hotel and bungalow cabin accommodation. Equipped camp grounds.
St. Lawrence Islands...	In St. Lawrence River between Brockville and Kingston, Ont.	1914	171.7 (acres)	Mainland area and 12 islands among Thousand Islands. Recreational and camping area. Accessible by highway; by boat from nearby mainland points.

3.—Location, Year Established, Area and Characteristics of National Parks—continued

Park	Location	Year Estab- lished	Area	Characteristics
			sq. miles	
Scenic, Recreational and Animal Parks —concluded				
Riding Mountain.....	Southwestern Manitoba, west of Lake Winnipeg.	1929	1,148.0	Playground and wildlife sanctuary on summit of escarpment. Fine lakes. Accessible by highway. Hotel and bungalow cabin accommodation. Equipped camp grounds.
Prince Albert.....	Central Saskatchewan, north of Prince Albert.	1927	1,496.0	Forested region dotted with lakes and interlaced with streams. Summer playground and recreational area. Accessible by highway. Hotel and bungalow cabin accommodation. Equipped camp grounds.
Banff.....	Western Alberta, on east slope of Rockies.	1885	2,564.0	Magnificent scenic recreational area; noted resorts, Banff and Lake Louise. Mineral hot springs; summer and winter sports. Accessible by rail and highway. Hotel and bungalow cabin accommodation. Equipped camp grounds.
Elk Island.....	Central Alberta, near Ed- monton.	1913	75.0	Fenced preserve containing large herd of buffalo; also deer, elk and moose. Popular recreational area. Accessible by highway. Bungalow cabin accommodation and equipped camp grounds.
Jasper.....	Western Alberta, on east slope of Rockies.	1907	4,200.0	Mountain playground and noted wildlife sanctuary. Majestic peaks, ice fields, beautiful lakes and famous resort, Jasper. Mineral hot springs, summer and winter sports. Accessible by rail and highway. Hotel and bungalow cabin accommodation. Equipped camp grounds.
Waterton Lakes.....	Southern Alberta, adjoining Glacier Park in Mont- ana, U.S.A.	1895	203.0	Canadian section, Waterton-Glacier International Peace Park. Mountain playground with spectacular peaks and beautiful lakes. Accessible by highway. Hotel and bungalow cabin accommodation. Equipped camp grounds.
Glacier.....	Southeastern British Col- umbia, on summit of the Selkirk Range.	1886	521.0	Superb alpine region, towering peaks, glaciers and forests. Accessible by rail only. Climbing, skiing, camping.
Kootenay.....	Southeastern British Col- umbia, on west slope of Rockies.	1920	543.0	Encloses Vermilion - Sinclair section of Banff - Windermere Highway. Broad valleys, deep canyons, mineral hot springs. Hotel and bungalow cabin accommodation. Equipped camp grounds.
Mount Revelstoke....	Southeastern British Col- umbia, on west slope of Selkirks.	1914	100.0	Rolling mountain-top plateau. Colourful alpine meadows. Accessible by rail and highway. Summer accommodation in Park; all-year accommodation in town of Revelstoke. Championship ski runs and ski jump. Equipped camp grounds.
Yoho.....	Eastern British Columbia, on west slope of Rockies.	1886	507.0	Lofty peaks, magnificent waterfalls, colourful lakes. Yoho and Kicking Horse Valleys. Accessible by rail and highway. Hotel and bungalow cabin accommodation. Equipped camp grounds.
Wood Buffalo ¹	Partly in Alberta and partly in Northwest Ter- ritories, between Atha- basca and Slave Rivers.	1922	17,300.0	Immense region of forests and open plains. Home of largest remaining herd of bison on the Continent. Other wildlife abundant.

¹ Administered by the Northern Administration and Lands Branch, Department of Northern Affairs and National Resources.

3.—Location, Year Established, Area and Characteristics of National Parks—concluded

Park	Location	Year Estab- lished	Area	Characteristics
Historic Parks			acres	
Signal Hill.....	St. John's, Nfld.....	1958	243.4	Location of military installations and site of operations and battles in 1700's. Cabot tower.
Fort Anne.....	Nova Scotia, at Annapolis Royal.	1917	31.0	Site of early Acadian settlement. Museum and well-preserved earthworks.
Fortress of Louisbourg.	Cape Breton Island, N.S., 25 miles from Sydney.	1941	339.5	Ruins of walled city erected by the French, 1720-40. Interesting excavations. Museum.
Halifax Citadel.....	Halifax, N.S.....	1956	37.0	Defence post constructed 1828-42. Museums.
Port Royal.....	Port Royal, N.S., 8 miles from Annapolis Royal.	1941	20.5	Restoration of "Habitation" or first fort built in 1605 by Champlain, DeMonts and Poutrincourt.
Fort Beauséjour.....	New Brunswick, near Sackville.	1926	81.3	Site of French fort erected in middle of 18th century. Museum.
Fort Chambly.....	Chambly, Que.....	1941	2.5	French fort on Richelieu River, first built in 1665. Museum.
Fort Lennox.....	Île aux Noix, Que., near St. Johns.	1941	210.0	Site of early French fort built in 1759.
Fort Malden.....	Amherstburg, Ont.....	1941	5.0	Site of defence post built 1797-99. Museums.
Fort Wellington.....	Prescott, Ont.....	1941	8.5	Defence post built 1812-13. Museum.
Woodside.....	Kitchener, Ont.....	1954	11.0	Boyhood home of the Rt. Hon. William Lyon Mackenzie King, former Prime Minister of Canada.
Fort Prince of Wales....	Northern Manitoba, near Churchill.	1941	50.0	Ruins of fort built 1733-71 to secure control of Hudson Bay for England.
Lower Fort Garry.....	Manitoba, 20 miles north of Winnipeg.	1951	13.0	Stone-walled fort built by the Hudson's Bay Company between 1831 and 1839.
Fort Battleford.....	Saskatchewan, 4 miles south of North Battleford.	1951	36.7	North West Mounted Police post built in 1876.

Provincial Parks.—In addition to the National Parks described above, most of the provincial governments have established parks within their boundaries. These parks, in the same way as the National Parks, are areas of special scenic or other interest, preserved and maintained for the benefit of the public but many of them are still undeveloped. A detailed list of Provincial Parks, showing location, year established, area, and a short description of each, is given in the 1954 Year Book, pp. 26-30. The more important parks in each province are mentioned briefly here.

Newfoundland.—There are 55 sq. miles of provincial park area in Newfoundland—42 sq. miles on the west coast established as Serpentine Park is undeveloped; Sir Richard Squires Memorial Park on the Upper Humber River and Butter Pot Park on the Avalon Peninsula are under development. Surveys are being conducted with a view to setting aside about 400 acres of Crown lands throughout the province to be used as picnic and camp sites, ranging in size from one-half-acre to 50-acre lots.

Nova Scotia.—The Provincial Wildlife Park at Shubenacadie is operated by the Department of Lands and Forests. It is a 28-acre tract of land maintained in its natural state as far as possible consistent with providing housing for the animals and birds that are its main display attraction. Such facilities permit the park's annual attendance of some 225,000 visitors to see wildlife at close range. Expansion is planned as more varieties of birds and animals become available and can be absorbed.

Quebec.—The Province of Quebec has established five Provincial Parks and eight Fish and Game Reserves. Four of the park areas are quite extensive. La Vérendrye Park, 140 miles northwest of Montreal, has an area of 4,746 sq. miles; Laurentide Park, 30 miles north of Quebec City, has 3,612 sq. miles; Mont Tremblant, 80 miles north of Montreal, 1,223 sq. miles; and Gaspesian Park, Gaspé Peninsula, 514 sq. miles. Mount Orford Park, situated 15 miles west of Sherbrooke, has an area of 16 sq. miles.

The Fish and Game Reserves together occupy more than 30,000 sq. miles. The Chibougamau Reserve and the Mistassini Reserve, both northwest of Lake St. John, cover 3,400 sq. miles and 5,300 sq. miles respectively; the Kipawa Reserve in the Témiscamingue district, 1,000 sq. miles; and the Shickshock Reserve adjoining Gaspesian Park, 314 sq. miles. The Petite Casapedia, 305 sq. miles, and the Port Daniel, 30 sq. miles, reserved for salmon and trout fishing, both lie along the Bay of Chaleur in Gaspé Peninsula, while the Mingan Reserve, largest of them all with an area of 21,000 sq. miles, lies on the north shore of the St. Lawrence River in Saguenay County.

These parks and reserves are wilderness areas of great scenic interest—for the most part mountainous country threaded with many rivers, lakes and streams and abounding in wildlife. In all of them, except Mount Orford, excellent fishing may be found and most of them have been organized to accommodate sportsmen and tourists in camps, cottages and lodges. Mont Tremblant is a famous resort area in both summer and winter and is easily reached by highway from Montreal. The Department of Game and Fisheries administers the parks and reserves, and also four salmon streams which are open to anglers.

Ontario.—The Provincial Park program in Ontario has been greatly expanded since 1955. Six areas under development at the end of that year have been increased to 115 parks and park reserves by mid-1958. In 82 of these at least minor improvements have been effected and 67 are supplied with caretaker services and with camping and picnic facilities. The four largest parks—Algonquin, Quetico, Superior and Sibley—together have an area of nearly 4,700 sq. miles. Algonquin, 141 miles north of Toronto and 105 miles west of Ottawa, was the first to be established and is the best known. It is well provided with commercial camps for children and adults and is easily accessible by road. However, the present administrative policy is to encourage the establishment of commercial recreation facilities on the park fringes and to return the park itself to its natural condition. The interiors of Quetico and Superior Parks are also being retained as wilderness areas with fringe development. Quetico Park is accessible by road through the recently developed French Lake campsite, and by water; an extension to Highway No. 17 northward from Sault Ste. Marie will give access to Superior Park; and Sibley Park may be reached by road from Highway No. 17 eastward from Port Arthur.

The parks are administered by the Parks Division of the Department of Lands and Forests, Toronto, from which detailed information is available in brochure form.

Manitoba.—There are ten forest reserve areas in Manitoba: Turtle Mountain Forest Reserve (109 sq. miles), Spruce Woods Forest Reserve (222 sq. miles), Porcupine Forest Reserve (787 sq. miles), Duck Mountain Forest Reserve (1,426 sq. miles), Sandilands Forest Reserve (570 sq. miles), Whiteshell Forest Reserve (1,088 sq. miles), Cormorant Forest Reserve (575 sq. miles), Agassiz Forest Reserve (275 sq. miles), Belair Forest Reserve (54 sq. miles), and Northwest Angle Forest Reserve (280 sq. miles). These Forest Reserves are used to some extent as recreational areas. In addition there are twenty-three areas, including the Northern Recreational Area, Amaranth Beach, Lynch Point, Pelican Lake, Rock Lake, Killarney, Seven Sisters, Pine Falls, Beaver Creek,

Wallace Lake, Bird Lake, St. Ambroise, Lundar, Beaconia, Oak Lake, Methley, Toutes Aides, Waterhen, Overflowing River, Steep Rock River, Red Deer River, Lake St. George and Moose Lake, which make up a total of 968 sq. miles of new parks and recreational areas established up to 1958.

Saskatchewan.—Saskatchewan has ten Provincial Parks with a total area of about 1,700 sq. miles. Cypress Hills, Duck Mountain, Greenwater Lake, Moose Mountain, and Valley Centre are operated as summer resorts with chalet, lodge, cabin and trailer accommodation, and camping and picnic facilities. Recreational activities include fishing, boating, swimming, golf, tennis, dancing, baseball, hiking, horseback riding, etc., and the parks are all well fitted with playground and beach equipment for children. In Cypress Hills Park, elk, antelope, deer and beaver are plentiful and brook and other trout abound in the streams and lakes. Heavy stands of tall, straight lodgepole pine provide forest cover in this area. In Duck Mountain, Moose Mountain and Greenwater Lake Parks, moose, elk, deer, bear and beaver are common as well as several varieties of grouse. Spruce, poplar and white birch provide excellent cover for wildlife. Pickerel, pike and perch are prevalent in the lakes.

Alberta.—In Alberta 37 Provincial Parks have been established by Order in Council of which 30 are being extensively developed at the present time. The Cypress Hills Provincial Park, covering an area of over 77 sq. miles, is the largest and is situated in the southeast portion of the province. The other parks under development are: Aspen Beach, Beauvais Lake, Big Hill Springs, Crimson Lake, Cross Lake, Dillberry Lake, Garner Lake, Gooseberry Lake, Kinbrook Island, Lac Cardinal, Little Bow, Little Fish Lake, Long Lake, Ma-Me-O Beach, Miquelon Lake, Park Lake, Pembina River, Red Lodge, Rochon Sands, Saskatoon Island, Steepleville Dinosaur, Sylvan Lake, Taber, Thunder, Vermilion, Wabamun Lake, Willow Creek, Winagami Beach, Woolford, and Writing-on-Stone. Picnic facilities, playground equipment and camping areas are provided in these parks, which are maintained primarily for the recreation and enjoyment of the residents of the province.

British Columbia.—There are 124 Provincial Parks in British Columbia with a total area of about 13,151 sq. miles. These parks are classified A, B, and C. Class A parks are those considered most highly for immediate recreational development and are strongly protected. Class B parks are areas slated for development—valuable wilderness areas or places set aside for a specific reason. Class C parks are intended primarily for the use of local residents and are usually under Board management. The parks are in all stages of development and dedicated to a variety of recreational uses. There are immense wilderness areas such as Tweedsmuir and Wells Gray Parks and outstanding scenic and mountain places which include Garibaldi, Mount Robson and E. C. Manning Parks. Thousands of city dwellers throng to the ski slopes of Mount Seymour or picnic at Cultus Lake Park. The formal gardens of Peace Arch are a monument to the goodwill between Canada and the United States. Vancouver Island has a chain of small forest parks that have achieved a tremendous popularity with tourists—the best known are Little Qualicum Falls and Miracle Beach. In addition there is a campsite system closely integrated with the Provincial Parks, many campsites actually being located in the parks.

Subsection 4.—The National Capital Plan

Ottawa, the city selected by Queen Victoria in 1857 to be the permanent seat of the legislature of the united provinces of Upper and Lower Canada, was designated the National Capital of the Dominion upon Confederation in 1867. The community grew out of the military and construction camp which served as headquarters for the building of the Rideau Canal—a military project carried out between 1826 and 1832 which utilized the Rideau and Cataraqui Rivers to link Kingston on the St. Lawrence River and Lake Ontario with the Ottawa River thus providing a safe interior military waterway between Lake Ontario and Montreal by bypassing the vulnerable international section of the St. Lawrence

River. Originally known as Bytown, after Col. John By, R.E., builder of the canal, the settlement prospered with the development of the lumber trade. The Act of Incorporation, changing Bytown to the City of Ottawa, was proclaimed on Jan. 1, 1855.

The city, situated in an area of great natural beauty, has remained a self-governing municipality and, although throughout the years the Federal Government co-operated with the municipal authorities in the development of a system of driveways and parks, the city expanded without the benefit of any planned direction. In 1946, however, a Master Plan was approved, designed to guide the development of the Capital's urban area over the next half-century and to protect the beauty of the surrounding National Capital District. That District covers an area of about 1,800 sq. miles, half of which lies in the Province of Ontario and half in the province of Quebec. The co-operation of the Cities of Ottawa and Hull, sixty-four other autonomous municipalities and the two provincial governments is essential to the successful implementation of the Plan. The federal agency responsible for its fulfilment is the National Capital Commission (*see* p. 109).

Projects under the Master Plan fall into four main categories: those for which the NCC is responsible, such as development of the Capital's parkway and parks system, including Gatineau Park and the relocation of the Capital's railway system; the federal building program, carried out by the Department of Public Works or other federal agencies, with the locations and exterior design of buildings subject to NCC approval; joint projects with the local municipalities in which the NCC is the federal planning and financial agency; and, finally, entirely municipal projects.

Details of the Plan are given in the 1956 Year Book at pp. 30-34, and a review of progress up to mid-1957 appears in the 1957-58 edition at pp. 26-27.

Section 3.—Wildlife Resources and Conservation

A series of special articles relating to the wildlife resources of Canada have been carried in previous editions of the Year Book. Articles on Migratory Bird Protection in Canada, Game Fish in Canada's National Parks, The Barren-Ground Caribou, Migratory Bird Legislation, Scientific Management of Game Fish in Canada's National Parks, and The Musk-ox were carried in the 1951, 1952-53, 1954, 1955, 1956 and 1957-58 editions, respectively. Reference may be made in the present edition to a short article on the fur industry that appears in Chapter XIII on Fisheries and Furs.

The Canadian Wildlife Service.*—The Canadian Wildlife Service deals with most wildlife problems coming within the jurisdiction of the Federal Government. The Service was organized in 1947 to meet the growing need for scientific research in wildlife management and is a division of the National Parks Branch, Department of Northern Affairs and National Resources. Its functions include the administration of the Migratory Birds Convention Act in conjunction with the Royal Canadian Mounted Police and in co-operation with the provincial game authorities. It conducts scientific research into wildlife problems in the Northwest Territories, Yukon Territory, and the National Parks of Canada, advises the administrative agencies concerned on wildlife management and co-operates in the application of such advice. It provides co-ordination and advice in connection with the administration of the Game Export Act in the provinces; deals with national and international problems relating to Canada's wildlife resources; and co-operates with other agencies having similar interests and problems in Canada and elsewhere.

The Migratory Birds Convention Act was passed in 1917 to give effect to the Migratory Birds Treaty signed at Washington in 1916. It provides a measure of protection for numerous species of birds that migrate between the two countries. The Canadian Wildlife Service is the federal agency responsible for administration of the Act and for the annual revision of the Migratory Bird Regulations, which govern such matters as open seasons and other waterfowl hunting details, taking and possession of migratory birds for scientific

* Prepared by the Canadian Wildlife Service, Department of Northern Affairs and National Resources, Ottawa.

or propagating purposes, eiderdown collecting, etc. The Royal Canadian Mounted Police is responsible for enforcing the Act and Regulations. In both administration and enforcement, provincial authorities co-operate with the Canadian Wildlife Service.

There are 95 migratory bird sanctuaries in Canada with a total area of over 5,000 sq. miles. A sanctuary may be established on the initiative of the Department or of a provincial or municipal government, or on petition by a private person or organization. Bird banding provides valuable information on the migration of birds and their natural history and is especially useful in waterfowl management. Serially numbered bands supplied by the United States Bureau of Sport Fisheries and Wildlife are used in Canada as well as in the United States.

An investigation of the barren-ground caribou, begun by the Canadian Wildlife Service in 1948, is continuing. The animals are found mainly in the Northwest Territories but may migrate seasonally into the three Prairie Provinces. The investigation established that too great a harvest was being taken and led to more stringent hunting regulations and more predator control and conservation education.

Other recent and current projects of the Service include long-term studies of the muskrats of the Mackenzie and Athabasca deltas and beaver surveys in wooded areas of the Mackenzie District. A start has been made on transplanting beaver from abundant to scarce areas. Damage to cereal crops by wild ducks and cranes has received intensive study. The largest remaining herd of North American buffalo or bison kept in Wood Buffalo National Park has been closely studied to determine the extent of reproduction and the effects of disease. Murres, sea birds of importance to many inhabitants of Newfoundland, are under investigation to find out how their numbers are affected by human activities. Much time has been devoted to other species greatly reduced in number or in danger of extinction, such as Ross's geese, trumpeter swans and whooping cranes.

The present research staff includes 30 university-trained wildlife biologists, stationed at various centres throughout Canada. Ornithologists are located at Vancouver, B.C. (1); Edmonton, Alta. (3); Saskatoon, Sask. (2); Winnipeg, Man. (1); Ottawa, Ont. (2); Kingston, Ont. (1); Maple, Ont. (1); Quebec, Que. (2); Sackville, N.B. (2); and St. John's, Nfld. (1). Mammalogists are stationed at Yellowknife (2); Fort Smith, N.W.T. (2); Aklavik, N.W.T. (1); Whitehorse, Y.T. (1); Edmonton, Alta. (1); and Ottawa, Ont. (5). Limnologists are located at Banff, Alta. (1); and at Winnipeg, Man. (1). A number of university graduates and under-graduates are engaged annually to assist in summer field work. The Ottawa headquarters includes an administrative staff of about 30 in addition to supervisory research officers. About 25 part-time Migratory Bird Wardens and Sanctuary Caretakers are employed.

PART III.—CLIMATE AND TIME ZONES

Section 1.—Climate

The following article is a comprehensive study of the climates of Canada, specially prepared by the Meteorological Branch of the Department of Transport. Considerations of space make it impossible to include in this edition the detailed tabulations of climatic factors for individual meteorological stations but these will appear in the 1960 Year Book. In the meantime, the following article on Climate, together with detailed tables for 45 stations, will be made available in reprint form. The history and functions of weather observing stations in Canada are dealt with at pp. 51-52.

THE CLIMATE OF CANADA*

Canada is a land of many climates. Frigid wind-swept barrens, hot sun-ripened grain fields, dusty scanty grasslands and wet heavily forested slopes are all part of the Canadian landscape. Each is largely a product of past and present varied climates and in turn the

* Prepared under the direction of Andrew Thomson, Director of the Meteorological Branch, Department of Transport, Toronto, by C. C. Boughner and M. K. Thomas.

characteristics of each different surface play their part in modifying today's weather and climate. A few centuries ago the shores of this country seemed to be a cold inhospitable wilderness of forest and rock, but subsequent settlement and development have shown the Canadian climate to be enduring, liveable and even enjoyable. None of the climates has the genial qualities of those in more tropical latitudes; in fact, most of the population lives in a changeable weather zone known to develop some of the more energetic peoples of the world. The forbidding bleakness of the northern lands has acted as a deterrent to economic development and even more to settlement in those regions. However, it may be that in meeting this challenge Canadians, assisted by modern technology, will find the north no more an inhospitable wilderness than the south has proved to be.

Considering the extent of the country and the location of Canada on the globe, great variability in weather and climate might be expected. Stretching through nearly 90 degrees of longitude, the country consists of a sector which extends from within a few hundred miles of the North Pole south to latitude 42 degrees. Bordered by oceans on the east, west and north, and by the Great Lakes as part of the southern boundary, Canada has also an exceedingly long land boundary between it and the United States.

There are many interesting and exceptional facts about the Canadian climates, but they are by no means unique in the world. In general the climates of the southern portion of Canada may be compared to those across the breadth of Europe and Asia. The moderate temperatures and abundant precipitation of the Pacific Coast of British Columbia are somewhat similar to the climates of the coast of Norway; Vancouver weather, for instance, is similar to that near Bergen. However, the protected and sheltered climate of Victoria is more like that experienced in the low countries of Belgium and Holland. Moving eastward, the dry continental-type climates of Canada's Prairie Provinces are roughly comparable to the central regions of European U.S.S.R. For example, the climate of Calgary is not unlike that of an area north of Moscow. Further to the east across the continents and into more humid regions again, a climate similar to that at Ottawa is found at Harbin in Manchuria. Coastal Nova Scotia has its climatic counterpart in the northern Japanese island of Hokkaido. Finally, while the climate of the Canadian Arctic has the same characteristics as that of the U.S.S.R. Arctic, the cold pole of the eastern hemisphere in Siberia has winter temperatures that average much lower than any in Canada.

CLIMATIC CONTROLS

Located in the northern half of the hemisphere, the lands of Canada annually lose more heat to space than they receive from the sun. At the same time low latitude tropical countries are receiving more heat than they lose. To compensate for this, and to maintain a heat balance over all the earth, a general atmospheric air circulation regularly transfers heat poleward. This air movement, known as the "general circulation", undergoes seasonal variations and is broken into latitudinal belts or cells known from equator to pole as the doldrums, the easterly trade winds, the high pressure belt, the prevailing westerlies and the polar easterlies. Most of Canada lies in the zone of the westerlies; the polar easterlies are not well developed in this hemisphere and only occasionally in summer does southeastern Canada come under the direct influence of the Atlantic high pressure cell.

The general movement of air from west to east over Canada in the westerlies zone is not nearly as persistent as the winds in other circulation belts such as the trade wind zone. Migrant low pressure areas move across Canada in the westerlies stream causing the air to blow around them in an anti-clockwise direction while anticyclones or high pressure areas produce a clockwise circulation as they too move from west to east. The movement of these high and low pressure areas is associated with the constant struggle taking place over North America between cold air attempting to surge down from the north and warm air trying to flow up from the south. This inter-action produces low pressure areas while the boundary line between the contrasting air masses is known as a weather "front". Large areas of cloud, precipitation and generally poor weather usually accompany these low pressure areas and fronts.

The movement of the migrant pressure systems within the zone of the westerlies is a most significant climatic control over Canada. In winter, frontal activity is generally more complex and intensive, producing more periods of bad weather and extremely variable temperatures. Low pressure areas move eastward or northeastward over southeastern Canada and off the Continent every two or three days, while along the Pacific Coast the effects of successive frontal systems are felt equally as often. The Alberta area in the lee of the mountain ranges collectively known as the Western Cordillera is frequently the breeding ground for new storms which then move eastward across the country. Winter in the Arctic and the northern interior portions of Canada is usually not as stormy as it is in the coastal and more southerly sections. Large high pressure areas consisting of very cold dry air tend to build up and then surge down over interior and eastern Canada to the rear of low pressure areas.

While in the winter season the cold high pressure areas dominate the interior of the Continent, in summer the large semi-permanent high pressure areas over the north Pacific and Atlantic Oceans become the dominating features of the general circulation in this part of the world. The paths of the migrant low pressure areas over the Continent are then farther north and the storms are usually less intense than in winter. Along the Pacific Coast the frontal systems strike the coast farther north and less often while in eastern Canada the frequency of the stormy frontal systems is greatly reduced. Over the central interior and eastern Canada much of the cloud and precipitation of this season is of convective origin as the land heats under the summer sun.

Although the general circulation of the atmosphere is the controlling factor over the Canadian climate, it should be understood that the physical geography of North America contributes greatly to the general pattern. If the shape of the continental land mass were different the general patterns of air flow would similarly be different than they are. Also, the physical geography of the Continent greatly modifies the effect of the general circulation and produces a variety of climates in Canada that would not be expected from the general circulation alone.

The presence of the Western Cordillera has a great effect on the climate of western Canada. These mountains limit the humid and mild air from the Pacific to a narrow band along the coast, despite the general westerly circulation. As the air is forced aloft over the successive mountain ranges, it is compelled to give up its moisture, becoming relatively dry and warm by the time it flows over the prairies. Were it not for the Cordillera, a humid, moderate temperature type of climate would extend for hundreds of miles into western Canada. On the other hand, the mountains physically block the occasional westward-moving outbreaks of cold Arctic air which would otherwise reach the coast from the north and east.

East of the Cordillera and extending from the Arctic Ocean across Canada and the United States to the Gulf of Mexico lies a broad, relatively flat corridor. Consisting of Arctic barrens and boreal forests in the north and agricultural lands in the south, this corridor presents no obstacle of importance to the movement of large air masses from either the north or south. Warm moist air from the Gulf of Mexico is able to flow northward providing the ample precipitation of southeastern Canada while massive cold air outbreaks from northwestern Canada are able to plunge southward and eastward without encountering any physical barrier. It is this north-south corridor open to rapid air flow from either direction that makes interior Canada so vulnerable to sudden and drastic weather changes.

On the other hand, the large water surfaces of central and eastern Canada produce a considerable modification in the climate. In summer Hudson Bay provides a refrigerating effect to areas on the lee side, and its effect is also quite pronounced in autumn and early winter before the Bay freezes over, when the east shore is much warmer and snowier than it would be otherwise. Since a large percentage of Canada's population lives in the region of the Great Lakes the effect of these lakes on the climate of southern Ontario is, perhaps, more apparent. Winters are milder with more snow in southwestern Ontario, while in summer the cooling effect of the lakes is well illustrated by the number of resorts along their shores. To a lesser degree the smaller lakes in interior Canada modify the climate but only of the adjacent shores.

The mountains and highlands of the Eastern Cordillera are much lower than those of the Western Cordillera and, furthermore, since they are located on the east side of the Continent in the westerlies zone, their effect on the climate is relatively slight. In southeastern Quebec and in the Ungava-Labrador region there is evidence of increased precipitation along the westward slopes and decreased precipitation and slightly warmer temperatures on the eastward lee slopes. Compared to that caused by the Pacific, the Atlantic Ocean has little effect on the climate of Canada. Occasionally there is an extensive circulation of moist cool air over eastern Canada from the Atlantic but these are abnormal situations. Of course, the coastal areas of the Atlantic Provinces do have modified temperatures and increasingly humid conditions when the winds blow inland from the ocean. Mention should also be made of the cold Labrador Current which maintains Arctic-like conditions along the Labrador coast and is responsible for the extensive areas of fog and low cloud over and off the Atlantic Provinces in spring and early summer.

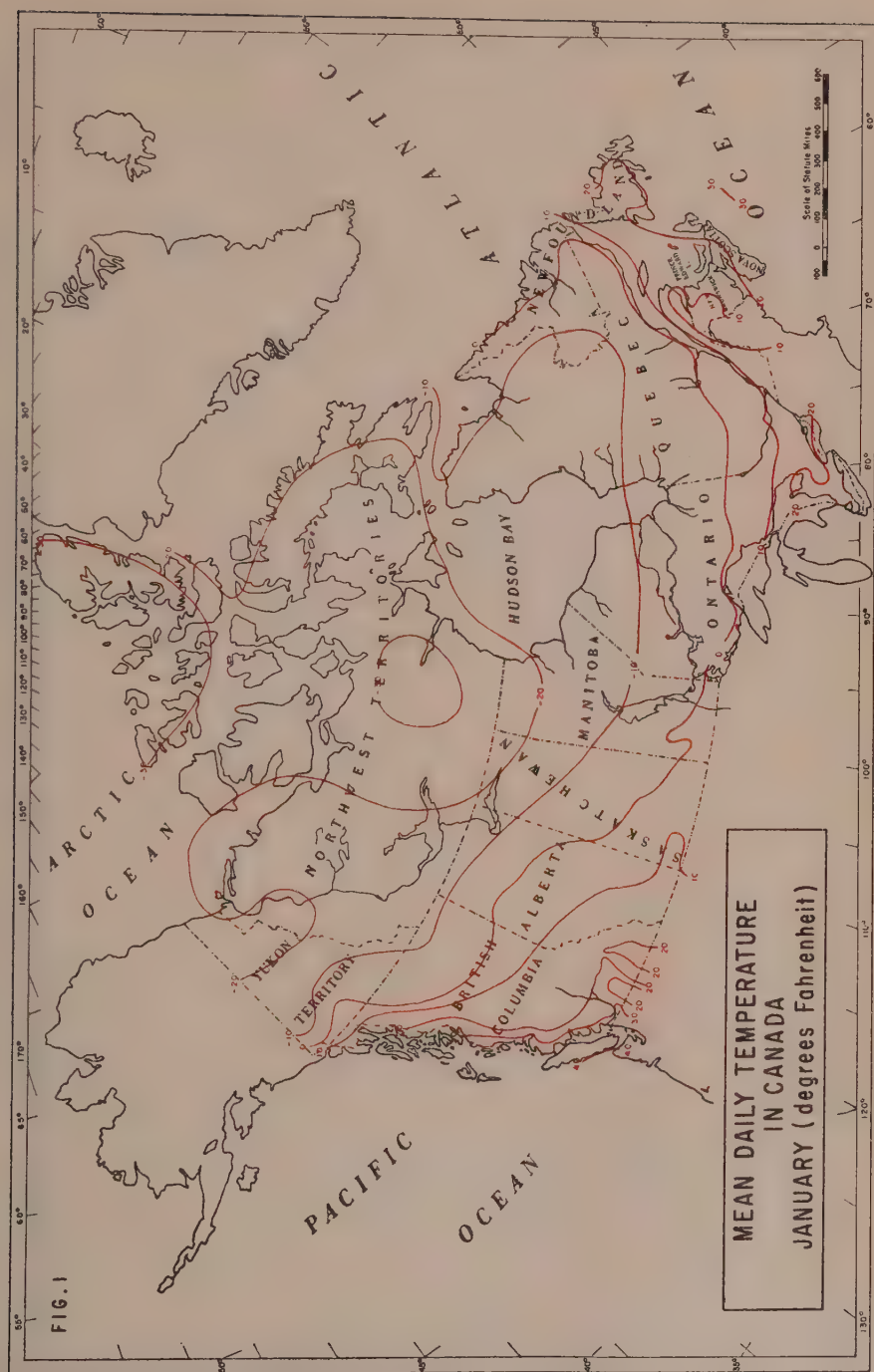
CLIMATIC REGIONS

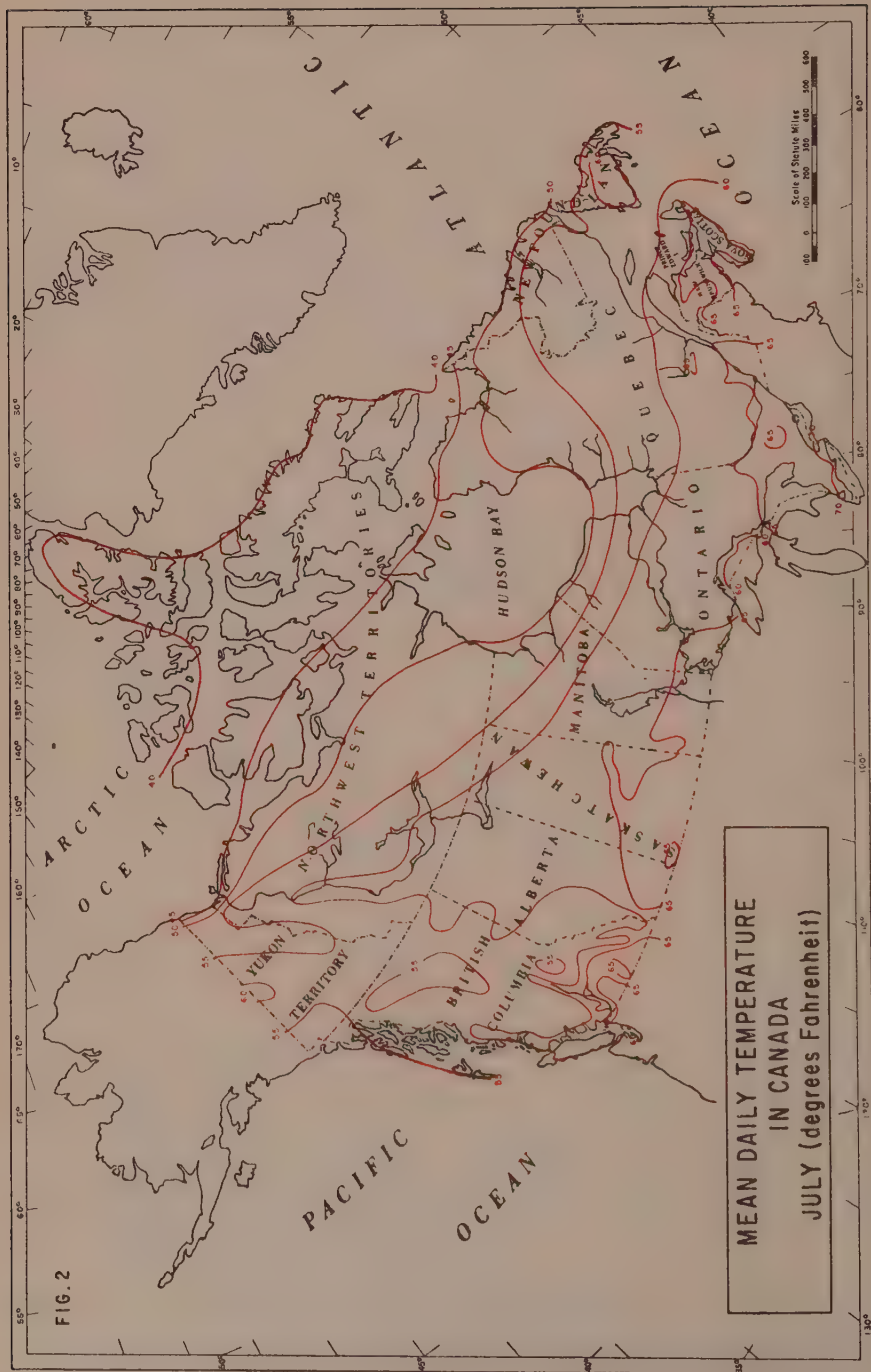
Before beginning a detailed study of the provincial and territorial climates, it might be well to examine the basic climatic features and the various climatic regions of the country.

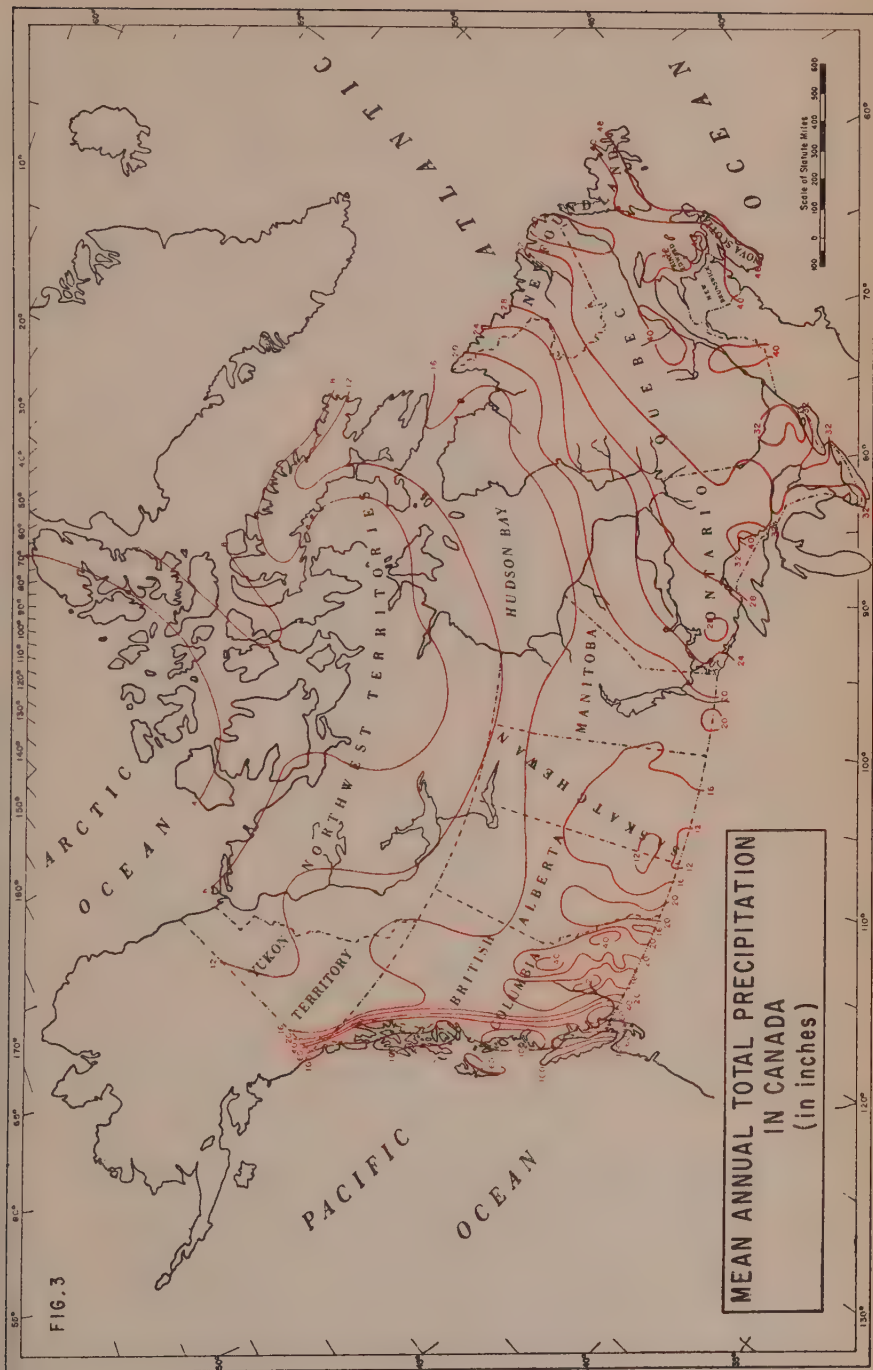
Mean temperature maps of Canada during the summer and winter seasons are quite dissimilar in appearance. Apart from the obvious difference of higher mean temperatures in summer, the January and July maps (Figs. 1 and 2) have different basic patterns. In winter the coastal areas are much warmer than the interior for the same latitudes producing isotherms with a concave pattern over the country. In summer when the continental land areas are warmer than the oceans the isotherms have a convex appearance. It should also be noted that the latitudinal thermal gradient, or difference in temperature from north to south, is considerably greater in winter than in summer. The coastal areas, of course, show the least change in mean temperature from January to July, 20° to 25°F. on the Pacific Coast and 40°F. on the Atlantic Coast, while the Mackenzie River area of the northwestern interior and the northwestern Arctic islands have the greatest range of between 70° and 80°F. The eastern Arctic does not have nearly as warm summers as those in comparative latitudes in the interior, nor are the winters as cold, so the range between January and July is reduced to 60°F.

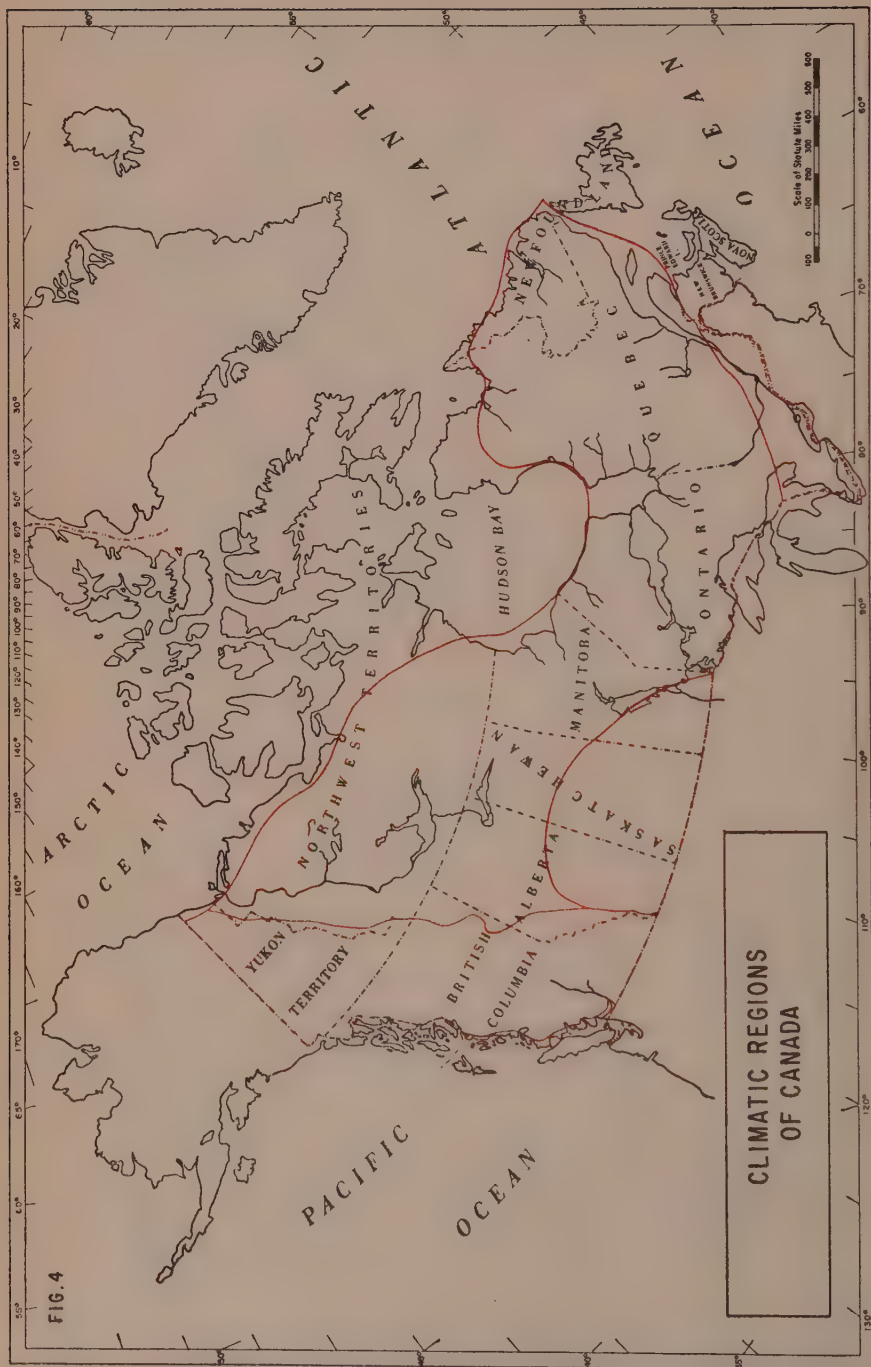
Considering temperature extremes, Canadian data are much more impressive regarding low temperatures than high. Temperatures lower than -40°F. have been experienced in all but the coastal areas and the southern extremities of the country. While the North American record of -81°F. was established at Snag in the Yukon Territory, temperatures lower than -60°F. have been reported from all but the Atlantic Provinces. The highest official temperature in Canada was 115°F. reported from Alberta and a sizeable portion of the southern interior of the country has had temperatures of over 100°F. Mention should also be made of heating degree-days, a concept useful in estimating fuel consumption. A study of these units reveals both the severity and duration of cold weather in northern Canada. Computed to a base of 65°F., heating requirements in southern British Columbia, southern Ontario and Nova Scotia are generally less than 8,000 degree-days annually, but this value increases to 16,000 in the Hudson Bay region and to 24,000 at the extreme northern edge of Canada. With further reference to temperature it must be remembered that in the presence of strong wind speeds the sensible temperature is much lower than the actual temperature. Computation of a value known as the wind-chill factor reveals that these factors, based on wind speed and temperature, are higher to the west of Hudson Bay than in most other areas with Arctic climates.

More precipitation could be used to great advantage in agriculture and forestry over a large portion of Canada. Generally speaking, areas with less than 20 inches a year (Fig. 3) in the southern half of the country are sub-humid, while all Canada, except perhaps the coastal regions, could beneficially use more summer rainfall in a normal year. Precipitation is not equally distributed; while the Pacific Coast averages more than 80 inches annually, the prairies have 15 inches and the Arctic less than 10 inches. Precipitation is greater in









the east, increasing from 30 inches in Ontario to 50 in Nova Scotia. Seasonal distribution is also dissimilar. While the Pacific regions expect the winter to be their rainy season, the prairies and the Arctic get most of their precipitation in summer. The seasonal precipitation regime is much more uniform over eastern Canada although the Maritime Provinces may expect a slight autumn and early winter maximum.

Snow is common to the entire country but, except for areas of heavy fall in the mountains of British Columbia, mean annual snowfall is heavier in eastern than in western Canada. The snow cover season is quite long in interior Canada; in fact the northern interior half of the country is usually snow-covered for longer than six months each year. Freezing precipitation may occur during the colder months in any part of the country and it occasionally seriously disrupts transportation and communications in southeastern Canada. Cloudy weather and the lack of sunshine are common across the country in winter but are most pronounced along the northwest Pacific Coast.

In spring, wind speeds are usually at their maximum and southern interior areas may unfortunately experience a few tornadoes each year in late spring and early summer. Fog is also more common in the Atlantic Provinces during this season. Thunderstorms are essentially a summertime phenomena over the southern interior and southeastern Canada. High sensible humidity conditions may be at their worst in midsummer accompanying high temperatures. These sultry conditions are most often felt in southern Ontario but usually the spells last only a few days at a time. The southeastern coast may be affected by one or more hurricanes in the early autumn but usually the centres of these storms pass to the south giving this portion of Canada abundant rainfall and high winds. Upon occasion though, a hurricane will pass directly over Canada as far west as Ontario with serious damage from wind, rain and floods.

Considering climatic controls and the basic features of the climate referred to above, it is possible to divide Canada into six general climatic regions—Arctic, Northern, Pacific, Cordillera, Prairie and Southeastern. It should be remembered that except for mountainous dividing lines the regions are really divided by broad transition zones and not by sharp lines as shown for convenience in Fig. 4. The classification used is not mathematically precise but it does take into consideration some of the basic Köeppen and Thornthwaite concepts.

The *Arctic* climatic region is that part of the country north of the July 50° isotherm. This line, extending from Aklavik to Churchill around Hudson Bay and down the Labrador coast, corresponds in general to the northern limit of tree growth. In this region there is no summer as that season is known in southern Canada. The northwestern part of the region is the true desert area of Canada while on the other hand sufficient moisture is available on the large eastern islands to maintain small ice caps. Snowfall is relatively light but it blows, drifts and packs to a degree unknown in southern Canada. Continuous darkness and/or twilight during the long winter season is also a major factor in making this region so inhospitable. Surprisingly, Canada's record low temperatures have not been observed in this region. There is just enough heat transmitted through the ice over the Arctic seas to slightly modify the winter temperatures, although sub-zero conditions certainly have a longer season in this region than in any other.

But for the possible connotation of the word, the *Northern* climatic region might well be called the sub-arctic. Bordered on the north by the Arctic tundra, this region consists of a broad band from the interior northwest of the country, south of Hudson Bay to the Great Lakes including most of Quebec and Labrador. The region consists of sparse, lightly treed barren lands in the north and the more heavily forested native boreal forest in the south. It is in this region that appreciable snow cover lasts for more than half the year, especially in the northeastern section. Extremely low temperatures occur every winter throughout most of the northwestern section, and very hot temperatures may occur in summer. Precipitation is light in the northwest—in fact, this section is sub-humid—but there is ample in most of the southeastern portion. The central Quebec-Labrador portion has more snow each winter than any other comparable area in Canada.

The absence of good soil, the shortness of the growing season and, in the northwest, the lack of sufficient moisture prevent this climatic region from extensive agricultural exploitation.

The *Pacific* climatic region consists of the islands and a narrow coastal belt of British Columbia, nowhere extending more than 100 miles and frequently only a few miles inland. In this classification the limiting eastward factor is the January isotherm of 32°. Mild winter and cool summer temperatures are ensured by the general circulation from the west off the ocean. Temperatures rarely drop below zero in winter or rise above 90°F. in summer. With a winter season maximum this region is rainier than any other in the country. As the frontal systems impinge on the mountainous coast, the moist air is forced to rise producing precipitation that averages over 80 inches annually with a maximum of 262 inches at one station. However, there are "rain shadow" areas such as at Victoria where annual precipitation is less than 30 inches. Native vegetation is the dense coastal forest.

Extending in a north-south belt through most of British Columbia and Yukon Territory is by far the most complex climatic region of Canada—the *Cordillera*. In this region of mountains, plateaux and valleys, altitude is usually more of a climatic determinant than latitude. Considering the rugged terrain of the country, it is almost impossible to map the climate accurately except on the most open scaled maps. Furthermore most of the available data are from valley stations. In general, however, precipitation decreases eastward from the Pacific region especially in the lee of the successive mountain ranges. Inversely, temperature variability and severity increase as the mountain region is traversed to the east. In this region diurnal temperature variations are greater than anywhere else in Canada. Summers in the southern interior mountain valleys are hotter than any location on the prairies but the northern portions are much cooler. Along some sheltered narrow valley stretches, true desert-like climate exists. Except in these dry areas and on areas of sheer rock the native vegetation is boreal forest in the north with sub-alpine and mountain forest in the south.

The *Prairie* climatic region takes in almost all the settled agricultural land of Manitoba, Saskatchewan and Alberta with the exception of the Peace River country. This native grassland is bordered on the west by the foothills of the Cordillera climatic region and on the north and east by the Northern region. Division from the latter region is along a "bridge", or slightly heavier parkland precipitation belt, extending to the mountains between the drier prairies and the northern lands. The prairie precipitation regime shows an early summer maximum which is, indeed, advantageous for agriculture. Total annual precipitation is normally light, especially in the South Saskatchewan River basin. The Prairie region is well known for two weather phenomena—the "blizzard" and the "chinook". Occasionally when the region is covered with bitterly cold Arctic air the general circulation will begin moving this air to the east and it is replaced by warm dry air subsiding in the lee of the mountains. This warm air invasion, which sometimes brings temperature increases of 40° to 50°F. is seldom felt east of southwestern Saskatchewan. Also in the wintertime and produced by intense frontal systems, bitterly cold temperatures with driving snow and high winds combine to produce the prairie blizzard. Such storms often bring outdoor activities to a halt for days.

The sixth and last general climatic region may be called the *Southeastern* region and takes in southern Ontario and Quebec along with the Atlantic Provinces of New Brunswick, Nova Scotia, Prince Edward Island and the island portion of Newfoundland. Winter in this region is shorter than in the adjoining Northern region, and summer, in the interior at least, may be quite warm for Canada. Reference has already been made to the great moderating effect of the Great Lakes over southwestern Ontario. This effect is scarcely noticeable in southeastern Ontario and in southern Quebec where winters may be much more severe. Temperatures in the interior of New Brunswick are similar to those in Quebec but the other Maritime areas are modified to an extent by the ocean and its embayments, especially in summer. Precipitation is ample in this region and increases from 30 to 35

inches in Ontario eastward to 50 inches in coastal Nova Scotia and Newfoundland. This abundant and reliable precipitation results from the frequent passage of frontal systems over southeastern Canada.

PROVINCIAL AND TERRITORIAL CLIMATES

British Columbia and Yukon Territory

This vast area extending from below latitude 49°N. to beyond the Arctic Circle is also one of diverse relief with elevations ranging from sea level to nearly 20,000 feet. Although 75 p.c. of the Province of British Columbia is more than 3,000 feet above sea level, nearly all settlement is on the floors and lower slopes of the valleys; consequently most of the available climatic data have been derived from low level stations. In the Yukon Territory, which has an area of more than 200,000 sq. miles, meteorological knowledge is confined to records from two dozen official weather reporting stations, of which some have records for only a few months. Three stations only—Dawson, Carcross and Mayo—have records extending back more than fifteen years.

Although it is possible to divide the area into broad climatic regions, the effects of altitude, topography and slope are of primary importance and significant variations in climate often occur within very short distances.

British Columbia Coast and Coastal Valleys.—This region includes the coastal islands, the coast, coastal valleys, west slopes and uplands of the coastal mountains. The coastline of British Columbia, in the sense of low-lying land fringing the sea, is narrow but it is indented with innumerable fiords some of which extend into the heart of the Coast Range, and with deep-cut river valleys of which several cut through the coastal mountains into the interior.

As the result of prevailing westerlies and the warm waters of the Pacific, the main climatic characteristics of the West Coast are the mild winters, warm but not hot summers, and small range of temperature. Although the whole area has the same broad climatic features, significant differences occur between the windward and leeward sides of the Coast Mountains, between the inner and outer sections of the fiords, and to a lesser degree with latitudes. In some of the valleys extending through the Coast Range, a complete transition from maritime climate at the mouth to continental climate in the interior takes place. Gales are frequent especially during the winter at exposed locations along the West Coast. The average wind speed, although noticeably higher than in the interior, is not high for an ocean coastline facing the westerlies. Topography exerts a strong influence on wind direction. Calms are rare along the open coasts and land and sea breezes are noticeable especially during the summer.

The West Coast is sheltered by the Coast Mountains from winter cold waves of polar air that sometimes penetrate into the interior of the province from the north and east. Uncomfortable heat in summer is unusual on account of the cool sea breezes which are likely to set in as soon as the land begins to warm up appreciably. As a result, temperatures seldom fall below zero in winter or rise above 90°F. in summer except far back from the coast. The dominating control of temperature by the ocean is indicated by the small variation from north to south over a distance of 500 miles along the Pacific Coast of British Columbia. The winters are mild as evidenced by January mean temperatures of 30° to 40°F., while in July mean temperatures do not exceed 60°F. at most coastal stations. The transition seasons are long drawn out as is illustrated by the fact that at Victoria the mean temperature rises less than 10°F. from March to May and falls only 12°F. from September to November.

The longest average frost-free season in Canada occurs along the coastal areas of British Columbia. The extreme southeastern tip of Vancouver Island enjoys a frost-free season of more than eight months. Generally, along the coast of Vancouver Island, along the immediate coast of the mainland, and on the small off-shore islands, the frost-free season exceeds 200 days. Shorter growing seasons occur where the maritime influences are reduced

by lack of protection from outbreaks of cold air or by elevation. Victoria (Gonzales Observatory) is the only official weather station in Canada that has experienced a winter season during which the temperature in the thermometer shelter at no time fell to the freezing level.

Frontal and orographic influences combine to increase the general rainy tendency of the West Coast, and the windward slopes of the littoral of British Columbia have precipitation among the heaviest in the world. The precipitation regime is characterized by wet winters, small proportions of snow at low levels, a large number of days with precipitation and a well-defined summer season minimum. Near sea level, wet snow that soon melts falls on a few days during most winters, but the Insular, Coast and Cascade Mountains receive an enormous amount of snow. A recently established weather station at Kildala Pass (elevation 5,280 ft.) in the Coast Mountains, southeast of Kitimat, reports an average seasonal snowfall of 809 inches. Thirty-nine inches of snow have fallen during a 24-hour period at this station and during one winter the total fall reached 880 inches.

The wet season begins late in September and ends about the middle of March along the West Coast. In contrast there is a marked dry season during the summer months. The heaviest rainfall occurs on the outer coasts of Vancouver Island, the Queen Charlotte Islands and on the mainland coast northward from Vancouver Island to the Alaskan Panhandle where the average annual precipitation is in excess of 100 inches. Exposure to the open ocean and local orographic influences often produce exceptionally heavy rainfall. Henderson Lake, which is situated at the head of a funnel-shaped valley at the end of an arm of Barkley Sound on the outer coast of Vancouver Island, holds the record for annual precipitation on the North American Continent. Precipitation records for this station include:—

Average annual total precipitation for a 14-year period.....	262.00 inches
Greatest total precipitation for one calendar year (1931).....	323.70 inches
Average total precipitation during the wettest month (December)...	46.70 inches
Total precipitation during the wettest month on record (Dec. 1923)...	79.45 inches
Greatest precipitation in one day (Dec. 30, 1926).....	16.61 inches

Despite the heavy winter precipitation, this station has the characteristic relatively dry summer with a total fall for the months of June, July and August averaging only a little over six inches per month.

Stations in the lee of the Coast Mountains show a remarkable reduction of precipitation. The effectiveness of the rain shadow of the Insular and Olympic Mountains is illustrated by the fact that Victoria receives only 26 inches a year in comparison with 40 inches at Vancouver Airport on Sea Island across the Strait of Georgia. At higher elevations on the eastern slopes of Vancouver Island, the annual precipitation is fairly high, averaging 64 inches at Lake Cowichan (elevation 580 ft.) as compared to 34 inches at Cowichan Bay (elevation 175 ft.).

Along the southwestern coast of the mainland, annual precipitation is slightly in excess of 35 inches on the outer islands of the Fraser Delta, but even at moderate elevations on the mountainous slopes to the north of the Fraser River there are substantial increases in precipitation. The seasonal regime of winter maximum and a very pronounced summer minimum is characteristic of the coastal area. At Vancouver Airport only 6 p.c. of the annual total falls during the summer months of July and August, and this produces an acute moisture deficiency during summer months. An extreme case occurred during the summer of 1951 when no measurable rain fell at Vancouver Airport during a period of 58 days (June 14 to August 10). Thunderstorms are very infrequent along the West Coast of British Columbia.

The littoral of British Columbia, and particularly the outer coast, is heavily clouded everywhere in autumn and winter. The less exposed districts, including the east coast of Vancouver Island and the Fraser Valley, have notably bright skies in summer. Victoria receives nearly 2,100 hours of bright sunshine each year, a record exceeded in Canada only on the southern prairies. On the other hand, Prince Rupert receives slightly less than half this amount.

Southern Interior of British Columbia.—The southern interior of British Columbia may be subdivided into west and east. The western portion, lying between the Coast Range and the Cascade Mountains on the west and the Columbia Mountain system in the east, is an area composed of deep valleys running in a general north-south direction entrenched in the Low Plateau having an average elevation of 4,000 feet. The eastern subdivision is characterized by the Monashee Mountains, the Selkirks and other rugged lofty uplands, divided by narrow valleys and picturesque lakes. The climate is continental, milder in the west than in the east. Winters are cold and the general north-south trend of the valleys frequently allows cold air masses from northern British Columbia to drift southward. There are also occasions when extremely cold air may enter from Alberta either by passing through the passes in the Rockies or by subsidence of the higher levels of a cold wave from the prairies. Even in the valleys, the ground is usually snow-covered during part of the winter.

Temperatures rise rapidly in March and spring is bright, dry and bracing. Summers are warm, with frequent hot days but with cool and occasionally cold nights. Precipitation is light and, in contrast to the West Coast region, is fairly evenly distributed throughout the year. Most of the winter precipitation is in the form of snow; while in summer heavy showers or thunderstorms provide much of the rain. The showers are usually of short duration and summer is a season of bright weather in contrast to the rather cloudy winters. Annual sunshine totals in the Southern Interior average about 2,000 hours with the average July day receiving about ten hours as compared to slightly less than two hours per day in December, the dullest month of the year.

In the valleys the wind usually blows along the valley and thus, is generally north or south. Calms are frequent in the deep valleys, particularly during winter nights. Mountain and valley winds tend to reinforce the up-and-down-valley movement of air.

Increasing "continentality" toward the east and the effect of altitude are controlling factors on the temperature regimes in the southern interior. The Okanagan and neighbouring valleys are famous for their orchards. Despite the scanty precipitation, irrigation is possible in most places by utilizing water from the numerous mountain streams. The warm summers with fairly low humidity are a distinct climatic advantage for fruit growing though the liability of spring frosts presents a serious hazard. Despite the fact that average daily minimum temperatures rise above the freezing point by Mar. 20 in the southern portions of the Okanagan Valley, and at the northern end of Okanagan Lake by Apr. 1, night frosts may occur for several weeks after these dates. The frost hazard is ameliorated in many localities by topography but on clear nights with intensive radiational cooling, frosts may cause much damage especially on low ground with poor air drainage. As an aid to the fruit growers, a special Frost-Warning Service is provided by the Canadian Meteorological Service during the spring months and frost warnings are broadcast by radio stations early each evening. When frost is predicted, oil or coal-fired heaters spaced throughout the orchards are used to provide a protective smoke screen and also to produce air turbulence, thus mixing the cold surface air with warmer air at tree-top level. More serious than the spring frosts are rare spells of abnormally cold weather in winter which cause winter killing of the fruit trees against which there is no protection.

Nearly all valley stations have mean daily maximum temperatures in the 80's during July, but cool nights give a large daily range and rather low daily means. The result is that few stations have mean temperatures much above 70°F. for the warmest summer month. Oliver at the southern end of the Okanagan Valley has a July mean temperature of 72°F., while Vernon in the north has 69°F. Corresponding January mean temperatures are 25°F. and 23°F. Most valley stations have recorded summer temperatures above 100°F. In fact, 112°F. has been reported at both Lillooet and Chinook Cove. Mid-winter minima have exceeded -30°F. at most stations and the mercury has fallen to -49°F. at Princeton. Old Glory Mountain at an elevation of 7,700 feet (the highest weather station in Canada) has had an extreme minimum temperature of -30°F. and an extreme high of 72°F.

Throughout the southern interior valleys the frost-free season generally ranges from 60 to 140 days. Extreme cases are McCulloch—20 days, and Keremeos and Warfield (Trail)—184 days. These wide variations demonstrate the importance of local factors such as air drainage, elevation, exposure to invasions of cold air or, on the other hand, the presence of bodies of water sufficiently large to ameliorate the temperature or to produce a protective blanket of fog on radiation nights.

Scanty precipitation is the outstanding climatic characteristic of the southern interior valleys of British Columbia. Movement over the Coast Ranges condenses much of the water vapour from the moist lower layers of the westerlies but the air which reaches the interior is not especially dry since the mountains are only of moderate height and substantial volumes of air penetrate through the deep valleys and over the lower parts of the ranges. In general, the western slopes of the minor uplands receive considerable precipitation but little falls on the leeward slopes and in the valleys. Each time this process is repeated, windward slope precipitation decreases until it increases again in the high Selkirks.

Precipitation in the interior valleys of southern British Columbia is fairly evenly distributed throughout the year since the region represents a transition belt between the West Coast type with winter maximum and the continental type of central Canada with the pronounced summer maximum. Maritime influence with winter maximum is pronounced in the higher and more exposed locations particularly in the western interior valleys. Continental effects are more evident in the lower elevations where the summer maximum occurs. One of the two driest areas in southern Canada extends up the Thompson River Valley from Spences Bridge to Kamloops and down to Merritt (Ashcroft 7.4, Tranquille 9.1, Kamloops 10.1, and Merritt 9.0 inches); the other is in the southern parts of the Okanagan and Similkameen Valleys (Oliver 9.8, Keremeos 10.3 inches). The Rocky Mountain trench is in another prominent rain shadow with less than 15 inches of precipitation (Invermere 11.5 inches). On the other hand the westward slopes of the Selkirk Mountains have the highest precipitation in the interior of British Columbia.

In the valley bottoms the winter snowfall usually ranges from 30 to 50 inches and the fall increases to 80 to 150 inches at recording stations on the west slopes and tops of the uplands. At Glacier (elevation 4,094 ft.) in the north Columbia basin, the winter snowfall averages 342 inches. Even in southern British Columbia, heights above 6,000 feet are snow-covered all year.

Central Interior of British Columbia.—The central interior region comprises an area about 350 miles long and 250 miles wide; stretching eastward from the Coast Range it includes the Skeena River valley and the upper portions of the Fraser and North Thompson Valleys. East of the upper Thompson River this division contains the Cariboo country and the northern portions of the Monashee and the Selkirk Mountains. The central interior region has a more uniform climate than the southern interior and is characterized by long cold winters, often intensely so when continental polar air sweeps down from the north. Summers are short and much cooler than in the south. Precipitation is not heavy.

Temperatures in the valleys of the central interior are quite similar to those recorded at upland stations in the southern interior. Most stations have at least five months with mean temperatures below freezing while the warmest summer month generally does not exceed 60° F. The long winter nights are often very cold and even most valley stations have recorded temperatures below -50° F. Quite high maxima may occur during the long summer days with maximum temperatures over 100° F. reported occasionally. Quesnel has had an absolute maximum of 105° F. The frost-free season is short, ranging from 50 to 70 days in the upper Skeena Valley, but varies from 35 to 100 days in the upper Fraser River basin.

The precipitation pattern in the central interior is quite similar to the south but reflects the simpler relief. The rain shadow immediately east of the Coast Mountains is very prominent. Kleena Kleene, situated only 120 miles from the Pacific, has a mean annual precipitation of only 14 inches but some parts of the Chilcotin uplands probably receive as much as 30 inches. Farther eastward the rain shadow in the deep Fraser Valley

between Prince George and Lillooet reduces totals to less than 20 inches. As the land rises again on the Cariboo Highlands precipitation increases to 44 inches at Barkerville and probably more in the Columbia Mountains, only to decrease again to 18 to 30 inches with the descent into the Rocky Mountain Trench. Precipitation is fairly evenly distributed throughout the year although spring is definitely the driest season and summer and autumn the wettest. Snow normally falls in all the months from September through May.

Northern British Columbia.—This section includes that part of the province lying roughly north of latitude 55°. West of the continental divide the region is one of varied relief including several distinct mountain ranges and associated valleys. The extreme northeastern portion of the province lying east of the Rocky Mountains comprises the Fort Nelson and Liard River basins in the north, separated from the Peace River basin to the south by a drainage divide rising to 4,000 feet. The whole area is characterized by long cold winters and short cool summers with only moderate precipitation. January mean temperatures are only slightly above zero in the northwestern section. Summer temperatures are among the lowest recorded in the province with July mean temperatures of 54°F. at Atlin and 57°F. at Finlay Forks. In the Peace River Valley, January temperatures average about 5°F. with mean July temperatures of 60°F. Northward in the Fort Nelson River Valley winter temperatures are ten degrees colder, while in July mean temperatures are quite similar in both valleys.

It is very difficult to assess frost data in northern British Columbia since an outbreak of polar air may occur at any time during the summer and produce freezing temperatures. The records also show striking differences between stations on the open plateau and those in mountain valleys. The available records show growing seasons ranging from 30 to over 100 days in northern British Columbia.

East of the Coast Range in northwestern British Columbia precipitation is light, averaging 11 inches at Atlin and 15 inches at Dease Lake, and increasing slightly eastward to 17 inches at Finlay Forks. Throughout the northeastern section of the province east of the continental divide available statistics indicate annual precipitation varying from 15 to 18 inches with a definite summer maximum.

Yukon Territory.—The Yukon Territory is a rugged land of plateaus and mountain ranges, cut off from the Pacific by the Coast and St. Elias Mountains which provide a strong barrier to the maritime influences from the Pacific. On the east the Mackenzie Mountains provide less defence against the winter cold waves from the Northwest Territories. Between these two mountain systems lies the Interior Plateau, a rough irregularly rolling upland with an average elevation of 4,000 feet but with large areas exceeding 5,000 feet and isolated mountains reaching 6,000 feet. Cutting through mountains and plateaus are numerous river valleys, some with flat bottoms and sloping sides; others are deep narrow gorges with the sides rising precipitously.

The whole region is north of latitude 60° and part is beyond the Arctic Circle. In winter even in the south the days are short with no effective sunshine. In summer long hours of daylight promote rapid growth where suitable soil is available. In comparison with the Mackenzie Valley, winters are remarkably mild in the Yukon Territory. Even though the oceanic influences are modified by the mountain barrier, winters are much milder in the southwest than in the interior. January mean temperatures are 5°F. at Whitehorse and -2°F. at Teslin. Comparative figures are -7°F. at Watson Lake and -16°F. at Dawson. On the other hand, topography favours extremely low minimum temperatures during Arctic cold waves. Snag holds the record for North America—-81°F. on Feb. 3, 1947. Other minimum records are -62°F. at Whitehorse, -63°F. at Teslin, -73°F. at Mayo and -74°F. at Watson Lake. Fortunately, periods of intense cold are usually of short duration. The Yukon Territory is subject to wide variations in temperature during the winter depending on whether the dominant influence is modified air from the North Pacific or intensely cold air from the Beaufort Sea. This is illustrated by a comparison of January mean temperatures at Dawson

which have ranged from -43°F. in 1909 to 7°F. in 1926. The transition period from winter to summer and vice versa is remarkably short in the Yukon Territory, the rapid change in daily temperatures reflecting the changing altitude of the sun. At Dawson mean temperature rises from 28°F. to 57°F. between mid-April and mid-June. Summers though short are pleasantly warm with all stations reporting mean temperatures above 50°F. during the three months June, July and August. The long days and high sun during June result in the mean temperatures for June exceeding the mean for August. The highest temperature on record in the Yukon Territory is 95°F. at both Dawson and Mayo. The frost-free season is short, ranging from 21 days at Pine Creek Experimental Station to 85 days at Watson Lake. Freezing temperatures have been reported every month of the year at all stations except Frances Lake and Watson Lake.

Mean annual precipitation is remarkably uniform over most of the Yukon Territory ranging from 9 to 17 inches at the valley stations for which records are available. Orographic effects are noticeable in the distribution of precipitation in this rugged country. There is no pronounced wet or dry season although at most stations July and August are the rainiest months and spring has least precipitation. Winter snowfall averages 40 to more than 80 inches with the heaviest falls in the Liard Valley, in the St. Elias Mountains and on the westward slopes of the Mackenzie Mountains. Snow usually lies in the valleys from mid-October till early April. The snow and ice fields of the St. Elias Mountains provide an important source of water for the rivers in the southwestern part of the Territory.

The Prairie Provinces

Bounded on the west by the mountains and foothills of the Rockies, the whole of the three Prairie Provinces consists of vast plains, deeply cut by river valleys and gently sloping towards the east and northeast. Despite the general uniformity of the prairies, there are numerous minor uplands, such as the Buffalo Mountain, Pasquia Hills, Porcupine Mountain, Duck Mountain, Riding Mountain, Turtle Mountain and the Cypress Hills, rising from 1,000 to more than 2,000 feet above the surrounding plain. However, the western mountains, forming as they do a fairly effective barrier to the maritime influence of the Pacific and at the same time leaving the area exposed to the inflow of cold Arctic air masses from the north, are more effective as a climatic control than the actual topography of the prairies.

Since there are no natural physical features sufficiently prominent to materially affect the climate in the Prairie Provinces, the natural vegetation regions serve as an indication of the general climatic regimes. In the south, a triangle with its base on the International Boundary and its apex about 52°N. , the prairie grassland, is a semi-arid area with hot summers. Surrounding the grasslands are the parklands, generally lying south of the North Saskatchewan River and south of Lakes Winnipeg and Manitoba in Manitoba. Precipitation is usually more reliable in the parklands and winters somewhat colder. Northward from the parkland is the forest, with an area of mixed forest and tundra in the extreme northern part of Manitoba.

Summers are normally warm for the latitude but winters are usually long and intensely cold. Consequently there is a very wide range between the temperatures of the warmest and the coldest months, running from about 45° in southwestern Alberta to 70° in southern Manitoba and 75° or 80° in the far northern sections of all three provinces.

Throughout the agricultural area of the three Prairie Provinces mean temperatures are below 32°F. from November through March. Winter cold increases from southwest to northeast. Several stations in southwestern Alberta have January temperatures exceeding 15°F. despite the relatively high elevation. In southeastern Saskatchewan and southern Manitoba, January mean temperatures are at least 15° colder and in far northern sections of all three provinces winter temperatures range from -15° to -20°F. for the coldest winter month.

Winter temperatures on the prairies may vary widely from month to month during a single winter or from year to year depending on the character and path of air masses passing over the region. In some winters, with a steady flow of cold polar air, a cold spell

may last for several weeks, as for example, the winter of 1955-56 when at Edmonton the temperature did not rise above freezing for a period of 84 days (Nov. 10 to Feb. 2). On the other hand, in some winters the southerly flow of Arctic air may be quite weak and air of Pacific origin moves eastward at the surface bringing fine mild weather. There have been winter months when the temperature has averaged 25°F. warmer than normal over a large section of Alberta (February 1931) and there have been winter months when a substantial portion of the western prairies have been 25° or more below normal (February 1936 and January 1950).

Winter temperatures in the lee of the Rockies reflect the warming effect of the "chinook" which occurs from the Northwest Territories to the United States but is most pronounced in southern Alberta with effects noticeable as far east as Regina. Characteristically, the chinook occurs as a westerly or southwesterly wind and is brought about by subsidence east of the western mountain ranges of maritime Polar air from the Pacific. This air is cooled adiabatically at the saturated lapse-rate in its ascent over the mountains but in its descent to the plains it is warmed again adiabatically at the dry lapse-rate which is twice the cooling rate during the ascent. Consequently this air reaches the foothills at a much higher temperature than it had at a corresponding level on the western slopes. The chinook is most striking when it occurs following a cold wave that has been accompanied by snow. The sky clears abruptly and temperatures may rise as much as 60°F. in a relatively short time. The bright sunshine and above freezing temperatures cause the snow to melt rapidly. Extreme temperatures of 61°F. in Calgary, 65°F. at Lethbridge and 66°F. at Medicine Hat in January indicate the warming effect of the chinook in southern Alberta.

Temperatures rise rapidly from winter to summer and fall with equal rapidity to winter. The transition periods are usually confined to April and October. Except in the northernmost portions of the Prairie Provinces, monthly mean temperatures are above 50°F. for the five months May to September. Extreme maximum temperatures have exceeded 100°F. over most of the prairies, and 110°F. in southeastern Saskatchewan and the Red River Valley in Manitoba. The highest recorded temperature for all Canada occurred at Gleichen, Alta., on July 28, 1903, when 115°F. was recorded. On the other hand, temperatures may fall to 32°F. or lower in every month in the north and even in less favoured locations in the southern prairies.

The length of growing season is of particular importance to agriculture in the Prairie Provinces, since throughout the greater part of the grain area the average frost-free period ranges from 80 to 120 days, which is critically close to the minimum required for grain crops to reach maturity. The longest growing season occurs in Alberta between Lethbridge and Medicine Hat—110 to 125 days. Throughout the remainder of the grain area of southern Alberta, the frost-free season slightly exceeds 100 days and farther northward the interval is slightly less, ranging from 80 to 100 days. In the Athabasca Valley the growing season is usually less than 70 days but in the Peace River district the frost-free season exceeds 80 days at most stations.

The South Saskatchewan Valley of Saskatchewan has a growing season in excess of 100 days but throughout the greater part of the Saskatchewan grain area the growing season ranges from 80 to 100 days. The Cypress Hills area is particularly frosty with some stations reporting an average frost-free season less than 60 days, and to the north of the North Saskatchewan River there are fewer than 80 days continuously frost-free. In Manitoba the growing season extends from late May to mid-September over most of the agricultural area with the longest frost-free period (120 days) at Portage la Prairie. In the extreme southeastern section of the province and in the area north of the Assiniboine Valley in the Duck and Riding Mountains the period continuously frost-free is less than 100 days. In the extreme northern sections of Saskatchewan and Manitoba, scattered stations report frost-free periods ranging from 60 to 90 days.

The Prairie Provinces are fortunate in receiving a high average of sunshine for the latitude; the annual totals range from 2,000 to 2,350 hours except in the northeastern and extreme northern portions. July is usually the sunniest month with totals exceeding 300 hours at most stations in Alberta and Saskatchewan and only slightly less in Manitoba.

December is the dullest month of the year with all stations showing totals less than 100 hours. There is a noticeable tendency for the sky to be either cloudless or completely overcast on the prairies.

Lying in the centre of the Continent and shielded from the Pacific by the western mountain ranges, the Prairie Provinces lack available sources for abundant precipitation. The region is favoured, however, by the fact that cyclonic activity is fairly vigorous and the hot summers are conducive to convection, particularly on the southern prairies. The heaviest precipitation on the prairies, especially in Manitoba, results from the lifting of extensive masses of moist air moving northward from the Gulf of Mexico and adjoining regions. Droughts are usually associated with abnormally low pressure in the Northwest Territories which produces only a weak southward flow of cold air.

Over a large section of the Prairie Provinces the total precipitation averages less than 15 inches and even throughout most of the grain area the annual total is less than 20 inches. Manitoba is the most favoured section with totals reaching 22 inches in the inter-lake region. The other extreme occurs on the High Plains north of the International Boundary in Saskatchewan and southeastern Alberta with totals only slightly in excess of ten inches and the effectiveness of this amount is reduced by the strong summer sunshine and drying winds.

In marked contrast to the Pacific Coast with its winter maximum, the prairies have a rainy season from late May to early September, although no season is without some precipitation. The light precipitation is somewhat mitigated by the fact that 60 to 75 p.c. of the year's precipitation falls during the crop season when it can be best utilized by the plants.

During the summer the intense heating and resulting strong convection are conducive to thunderstorm activity. These convective thunderstorms are less severe than the frontal type which develop along cold fronts and are often intensified by local convection. The second type may affect large areas as the front moves across the prairies. Unfortunately, hail frequently accompanies severe thunderstorms and may cause local or even widespread damage to crops and livestock. Distribution of hail along a storm track is erratic and the damage is generally restricted to narrow strips extending for several miles in a more or less discontinuous pattern. Hailstorms, like thunderstorms, are most frequent during the period mid-June to mid-August and are more likely to occur over the open grass-land than in forested areas. Tornadoes are relatively infrequent on the Canadian prairies. There are probably a very few each year but they usually go unreported owing to the relatively sparse population. Only six have been reported as causing damage in excess of one million dollars; the most destructive was at Regina in 1912.

Precipitation shows wide variations from year to year, with differences between the extreme annual amounts exceeding the mean annual total in most areas. However, in an area such as the prairies where precipitation is marginal for agriculture, more harm is caused by droughts than by excessive precipitation. This is especially true when there are a number of dry years in succession which may cause almost total crop failure and serious soil erosion. Drought is most apt to occur in southeastern Alberta and southwestern Saskatchewan; the Edmonton district of Alberta and the Red River Valley of Manitoba have the most dependable precipitation. Monthly precipitation totals are more often in deficit than in excess. A month may have no precipitation over a large section of the western grain area, while occasionally monthly totals may exceed ten inches. June and July are most likely to have high rainfall totals.

Floods are not ordinarily a serious problem on the prairies but high water in river systems with headwaters in the Rockies may occur during the early summer when the flow is increased by melting snow and ice in the mountains. Local flooding may result from excessive local rains in smaller drainage basins during the summer season. The lower valleys of the Red and Assiniboine Rivers in Manitoba, however, are liable to serious flooding such as occurred at Winnipeg in April-June, 1950. This situation developed from a combination of heavy winter accumulation of snow, a cold spring resulting in a late break-up, and moderate to heavy precipitation at the time of the break-up.

Winter snowfall is comparatively light in Central Canada with amounts ranging from 30 to 50 inches over the central prairies. This amount increases to 70 inches in the foothills of the Rockies and probably twice that amount in the highest ranges. Winter snowfall also exceeds 50 inches in central and eastern Manitoba. Snow may fall in any month except July and August, although measurable snow is unusual in June. The first snow cover usually appears in late October and snow disappears in early April. Blizzards and heavy snow drifting in winter are hazards on the open prairies but less so in the parklands and forests where the force of the wind is broken. Severe blizzards are most frequent in the months with heaviest snowfall and attain their maximum intensity when temperatures are zero or below. Although they still cause great inconvenience and disrupt transportation, the hazard of the blizzards has considerably decreased since the early days of prairie settlement.

Ontario

The Province of Ontario covers a vast area, extending over 15° of latitude and 20° of longitude. The southernmost part of the province is in the same latitude as Rome, Italy, while the extreme north is in the same latitude as southern Sweden. Although considered to be an inland province, it is noteworthy that Ontario has a freshwater shoreline of over 2,350 miles along the northern shores of the Great Lakes and in the north a saltwater shoreline of about 680 miles on Hudson and James Bays. The province includes a large portion of the Canadian Shield, a section of the Hudson Bay Lowlands and a large part of the St. Lawrence Lowlands.

Although altitude plays an important part in climatic variations in southern Ontario, that part of the province enjoys a considerably warmer climate than northern Ontario which bears the brunt of severe winter cold waves moving southeastward from the prairies or southward from the Arctic via Hudson Bay with little or no modification. Thus the province may be conveniently divided into Northern and Southern Ontario for discussion.

Northern Ontario.—Northern Ontario, lying between the upper Great Lakes and Hudson and James Bays, has an area slightly in excess of 300,000 sq. miles. Most of it is uninhabited since, except for mining operations, settlement is largely confined to the area south of latitude 50° 30' N. Except for a few rocky ridges northwest of Lake Superior which rise above 2,000 feet, the whole area is less than 1,500 feet above sea-level and much of the Hudson Bay Lowlands has an elevation less than 500 feet. The height of land separating the Great Lakes-St. Lawrence drainage and the Hudson Bay drainage lies in a wide crescent north of Lake Superior extending westward to the Lake of the Woods and eastward to Kirkland Lake. Extensive areas of glacial clay and sediments are found in the Canadian Shield and the largest of these clay plains is the Northern Clay Belt which stretches 125 miles from Hearst to Cochrane and is some 40 miles wide. These clay belts provide suitable soil for agriculture providing there is a sufficiently long frost-free season.

Northern Ontario experiences very cold winters with the 0°F. isotherm for January running from Lake Abitibi westward across the southern end of Lake Nipigon to the Lake of the Woods. Northward, January temperatures are as much as 15°F. colder in the extreme northernmost tip of the District of Patricia. The warming effect of Lake Superior is quite noticeable in winter with Fort William having a January mean temperature of 7°F. January temperatures show a gradual increase southward, reaching 15°F. along the north shore of Lake Huron. A bowl-shaped depression on or near the ridge separating the James Bay drainage area from that of the Great Lakes seems to provide the optimum conditions for extremely low temperatures on clear, still winter nights. The lowest temperatures on record for this area generally range from -50°F. to -60°F. The record low temperature for Northern Ontario is -73°F. at Iroquois Falls.

West of Lake Superior a feature of the climate is the rapid warming in the spring and in the more southerly parts of Northern Ontario spring is in evidence by April. Northward toward James Bay the coming of spring is retarded with a probability of frosts even in June. Summers are quite warm throughout all of Northern Ontario with July mean temperatures ranging from 60°F. in the far north and immediately north of Lake Superior

to 67°F. in the extreme south. This relatively narrow temperature range is in contrast to the much wider variation of nearly 30°F. in January between the extreme northwestern and southeastern sectors. Periods of hot weather are not unusual in summer with occasional occurrences of maximum temperatures in excess of 90°F. In fact, extreme maxima on record have exceeded 100°F. throughout most of the southern portion of Northern Ontario. The summer is short, however, and by mid-October mean temperatures have receded to 40°F. in all but the southern sections.

The length of the frost-free season is of critical importance to agriculture in Northern Ontario. This is an area where there are wide local variations in the incidence of frost depending on the presence of lakes and muskeg, the type of soil and orientation of the site. The size of clearings also has some effect on minimum temperatures during the summer. Low ground and peat bog depressions are particularly liable to frost. In the districts of Kenora and Rainy River and immediately along the north shores of Lakes Superior and Huron there are frost-free periods in excess of 100 days—early June to mid-September. Elsewhere in Northern Ontario seasons free from frost range from 40 to about 100 days. In general, a frosty belt exists over the height of land extending from Lake Nipigon to Lake Nipissing.

Sunshine is ample in Northern Ontario, although somewhat less than on the prairies. Annual totals range from about 2,000 hours in the Lake of the Woods region to 1,500 hours in the James Bay region.

Throughout Northern Ontario there is a definite summer maximum and winter minimum in precipitation. This is especially pronounced in the Lake of the Woods area where the July precipitation is nearly four times the January amount. Average total precipitation over Northern Ontario generally ranges from 20 to slightly over 30 inches with the least amount in the District of Patricia. As a result of orographic effects, the heaviest precipitation in Ontario occurs on the steep northeastern shore of Lake Superior. Steep Hill Falls (elevation 1,100 ft.) has an average annual total of 44.8 inches. Snowfall at this station averages 196 inches. Throughout most of Northern Ontario, winter snowfall averages 60 to 100 inches, and in most winters the warm spells are not sufficiently warm or long enough to melt much of the snow, so by winter's end snow accumulation on the ground amounts to 30 inches or more.

Southern Ontario.—That part of Ontario lying south of Lake Nipissing comprises an area only about one-sixth as large as Northern Ontario. Roughly triangular in shape, it is bounded on the west by Lake Huron, on the south by Lakes Erie and Ontario and on the north and northeast by the Laurentian Highlands. Two important highland regions with large areas above 1,200 feet in elevation rise above the extensive lowlands bordering the lakes and the narrow Ottawa Valley. South of Georgian Bay the western Ontario uplands form a plateau with elevated areas rising to more than 1,700 feet. The other uplands are found in the Algonquin Park area between Georgian Bay and the Ottawa Valley.

The southwestern tip of the province extends farther south than any other part of Canada. This fact combined with the ameliorating influence of the lower Great Lakes serves to give peninsular Ontario a much milder climate than that of the northern districts. The lower lakes region lies in one of the major storm tracks of the Continent and the passage of cyclones and anti-cyclones over the area produces wide variations in the day to day weather, especially in winter. Changes in air masses may be expected to occur every two to five days throughout the year. Usually periods of extreme conditions of severe cold or excessively warm weather are not prolonged.

Winter temperatures reflecting the lake influence are mildest in the areas around Lakes St. Clair and Erie and in the Niagara Peninsula where January temperatures average 24° or 25°F. Northward and eastward the winters are considerably colder, January mean temperatures being 12°F. at Ottawa and 11°F. at Algonquin Park. Along the north shore of Lake Erie and in the Niagara Peninsula, extreme winter temperatures seldom

fall below -20°F . which is an important factor for fruit growing in the area. On the other hand in the Haliburton-Algonquin Park area, extreme minimum temperatures of -45° to -50°F . have occurred.

April marks the return of spring and by mid-May mean temperatures are everywhere above 50°F .; the high percentage of sunshine and ample rainfall stimulates rapid growth. Temperatures warm up more rapidly in spring in eastern Ontario than in the southwestern part of the province, and consequently there is little variation in summer temperatures throughout the whole area. The summers, though warm, are not excessively hot and except for Essex and Kent Counties mean July temperatures do not reach 70°F . at most stations. Periods of oppressive heat accompanied by high humidity resulting from the invasion of air from the heated interior of United States are usually of short duration. Extreme maximum temperatures have exceeded 100°F . almost everywhere in Southern Ontario. Autumn sets in gradually and is usually a pleasant season. During the autumn anti-cyclones may drift slowly over the eastern part of the Continent, producing calm, mild, hazy days and cool nights—the period of “Indian summer”.

The Great Lakes exert a modifying influence on frost at stations in their close proximity. Pelee Island enjoys an average frost-free season of 197 days and the lake influence shows up at other stations near Lakes Huron, Erie and Ontario where the growing season unrestricted by freezing temperatures averages about 160 days. With increasing distance from the lakes there is a corresponding increase in the variation of frost dates and generally a shorter frost-free season. On the upland plateau in southwestern Ontario the season free of frost is four months or less in the Mount Forest-Dundalk area. In eastern Ontario the growing season reaches 160 days at some points along the north shore of Lake Ontario but gradually decreases to less than 100 days in the highlands of Haliburton and Algonquin Park where a minimum of 46 days is reached at Madawaska.

Sunshine totals for the year vary from 1,800 to over 2,000 hours in Southern Ontario. December is the dulllest month with most stations averaging only about two hours of sunshine per day. However, there is a relatively high percentage of bright sunshine during the growing season with the four months May-August receiving more than 200 hours each month with a peak of nearly ten hours per day in July.

Precipitation is fairly uniformly distributed throughout the year in Southern Ontario with no pronounced wet or dry season. The mean annual amount ranges from 27 to 40 inches and is usually adequate for successful agricultural operations. The heaviest precipitation falls on the western slopes of the highlands facing Lake Huron and Georgian Bay with definite rain shadows in the lee of these uplands. A belt of heavier precipitation also occurs in the area between the St. Lawrence and Ottawa Rivers. The driest sections are Prince Edward County, Manitoulin Island, the Harrow-Leamington area, the Niagara Fruit Belt and the Camp Borden area south of Georgian Bay.

The greater part of summer rainfall results from showers and thundershowers of short duration and wholly overcast or rainy days are comparatively rare during the months of June, July and August. Thunderstorms may be expected to occur on 20 to 30 days each year in Southern Ontario. Hail occasionally accompanies summer thunderstorms and while these storms are infrequent they may cause severe damage to fruit, tobacco and garden crops. The peninsula of Southern Ontario is usually outside the tornado belt of central United States but in recent years such storms have occurred particularly in the Windsor-Sarnia area. Small “twisters”, which do a considerable amount of local damage, are usually reported each summer in different parts of the province.

The distribution of winter snowfall in Southern Ontario is quite similar to that of total precipitation. The smallest amounts of 40 inches or less occur in Essex and Kent Counties and in the Niagara Fruit Belt where the snow cover usually lasts less than three months. The greatest amounts fall on the upland slopes facing Lake Huron and Georgian Bay when cold air saturated and warmed in its passage over the water is forced to ascend the colder highlands. Stations in the centre of this snow belt receive from 100 to 125 inches of snow and the snow cover lasts four to five months. On many winter days in Southern Ontario temperatures are critically close to the freezing point, and consequently,

precipitation may occur as either rain or snow. For this reason, the accumulation of snow on the ground during the winter varies rather widely from year to year, especially on the lowlands. Snow cover is generally more reliable in the highlands.

Quebec

Quebec is the largest province in Canada, stretching from the International Boundary on the south to Cape Wolstenholme on Hudson Strait, a distance of 1,200 miles. In the north, treeless tundra, wasteland and unproductive forest occupy 160,000 sq. miles; productive forest covers slightly less than 225,000 sq. miles and about 25,000 sq. miles are utilized for agriculture. Physiographically, Quebec may be divided into three main regions: the Canadian Shield or the Laurentian Plateau, which occupies the greater part of the province, extending from the rugged plateau-like highlands north of the St. Lawrence River to Hudson Strait; the St. Lawrence Lowland; and the Appalachian Highlands.

The Laurentian Plateau rises from sea level on the shores of Hudson and James Bays to 1,000 feet in Abitibi, 1,500 feet in the Laurentian Mountains and about 2,000 feet along the Labrador boundary. Summits rising to 3,900 feet are found in the Laurentide Park north of Quebec City and to 3,150 feet in Mont Tremblant Park west of Montreal. In general, however, the Laurentian Plateau is a surface of unbelievable monotony, literally strewn with lakes. Extending from Alabama to Newfoundland, the Appalachian Mountains include southeastern Quebec. They reach their greatest extent in the Eastern Townships and their greatest heights in the Gaspé Peninsula where Quebec's highest peak, Mount Jacques Cartier rises to 4,160 feet. The small St. Lawrence Lowland is triangular in shape, bounded by the Canadian Shield in the north, the Appalachian Highlands on the east and the Adirondack Mountains of New York State to the south.

Owing to its geographical position, large area and complex physiographic relations, Quebec has a wide variety of climates. The southwestern part of the province is subject to the same climatic influences as the lower lakes region of Ontario but is without the protection afforded by the Great Lakes. On the other hand, the highlands stretching from Hudson Bay to Labrador are bitterly cold in winter and are practically summerless in the far north.

Mean annual temperatures vary from 44°F. in the extreme south to about 17°F. near Cape Wolstenholme. January mean temperatures are in the neighbourhood of 15°F. in the Montreal area and 12°F. at Quebec City and in the Eastern Townships. Maritime influences serve to maintain means of 10° to 12°F. in this mid-winter month at low-level stations on the Gaspé Peninsula and on Anticosti Island. The 0°F. isotherm for January runs from Abitibi almost due east to the Lake St. John area and thence northeastward along the north shore of the Gulf of St. Lawrence. The Ungava peninsula, which is subject to the almost continuous importation of cold air masses from higher latitudes and intensive radiation from the prevailing high level of the land, experiences mean winter temperatures of -10° to -15°F.

The topographical situation on the Canadian Shield in the interior of central Quebec is quite similar to Northern Ontario and as a result winter minima may be expected to fall to -40° or -50°F. A record low temperature for Quebec of -66°F. has been reported at Doucet.

The rapid advance of spring in the St. Lawrence Valley is a striking feature of the climate of that area. March is definitely a winter month at Montreal but by April the mean temperature is nearly as warm as at Toronto, while May and the summer months are equally warm, with July averaging 70°F. Farther down river at Quebec and throughout the Eastern Townships, July mean temperatures are two to five degrees cooler than at Montreal. On the south shore of the Gaspé Peninsula, July temperatures average about 64°F. but elsewhere in the Gulf of St. Lawrence region normal mid-summer temperatures are around 60°F. On the Laurentian Plateau July mean temperatures decrease from 60°F. at latitude 50°N. to 45°F. along the south shore of Hudson Strait but despite the generally cool summer temperature, markedly warm days may occur. Extreme maximum temperatures of 90°F. have occurred in all but the extreme northern portion of the Ungava peninsula.

Southern Quebec is frequently invaded in summer by warm air masses from the southwest and temperatures in excess of 90°F. are not infrequent. As in Southern Ontario, very oppressive conditions result when these hot spells are accompanied by high humidity. Fortunately, such conditions are usually of relatively short duration.

The longest frost-free season in Quebec occurs in the lower Ottawa Valley and in the Montreal region where the growing season extends from early May to late September (135 to 155 days). Southward from the St. Lawrence River the frost-free season falls off with increasing elevation to less than 100 days in the Thetford Mines-Disraeli area. Most localities in the Saguenay Valley and in the Lake St. John region experience a season free of frost slightly in excess of 100 days but in the Laurentian Hills to the west the growing season decreases to 80 to 100 days for the most part, depending on local topography and exposure. At stations along the shore of the Gaspé Peninsula, the proximity to the water is responsible for a frost-free season of 120 to 140 days but the growing season is drastically curtailed to less than 100 days at higher elevations. There is also a relatively long period of three to four months free from frost immediately along the north shore of the Gulf of St. Lawrence. Throughout the northern interior of the province the season continuously free of freezing temperatures varies from 40 to 80 days. A large section of northwestern Quebec has permanently frozen sub-soil. The limit of permafrost or the southern limit of permanently frozen soil or sub-soil extends across the northern part of Ungava peninsula in a wide arc from a point north of Port Harrison on Hudson Bay to Knob Lake at latitude 55°N. and thence northeastward into Labrador.

The total annual precipitation ranges from 30 to 40 inches over most of southern Quebec and, while quite evenly distributed throughout the year, there is a tendency toward a maximum in the summer and early autumn. Precipitation is substantially heavier in the middle St. Lawrence Valley and in the Eastern Townships than in the Lower Lakes region of Ontario. The annual total at Montreal is 41.8 inches as compared to 30.9 inches at Toronto. Not only is the total fall greater but the number of days with measurable precipitation increases from 143 days at Toronto to 160 days at Montreal. Severe droughts are unusual throughout the agricultural area of southern Quebec.

North of the St. Lawrence River and Gulf, precipitation varies considerably with topography and elevation. Where stations are situated near the crest of steeply rising slopes but facing the river, the precipitation is considerably increased, particularly in the Laurentide Park region between Quebec City and Lake St. John. Annual precipitation is quite heavy in the central interior of the province averaging 40 inches at Chibougamau, 36 inches at Lake Manouan, 29 inches at Mistassini Post, and 31 inches at Nitchequon, but decreases toward the west and northwest to 21 inches at Fort McKenzie, 16 inches at Fort Chimo, 14 inches at Cape Hopes Advance, and 15 inches at Port Harrison.

Winter snowfall is heavy everywhere in Quebec, and over a large section of the central interior of the province the accumulation on the ground at the end of winter exceeds four or even five feet. The heavy snow is welcomed by foresters and farmers as well as by tourists and sportsmen at winter resorts in the Laurentian Highlands. Average winter snowfall varies from 80 to 100 inches throughout most of the Ottawa and middle St. Lawrence Valleys but below Quebec City and in the Appalachian Highlands larger totals of 100 to 125 inches are general. The heaviest snowfall in Eastern Canada, 120 to more than 160 inches occurs north of the Gulf of St. Lawrence where moisture-laden air is forced against the steep slopes of the north shore. In this area winter is the season of maximum precipitation.

In the far north, west of Ungava Bay, the average snowfall is less than 60 inches but amounts increase rapidly toward the interior and at higher elevations of the eastern portion of the Canadian Shield where the total winter snowfall exceeds ten feet.

The Maritime Provinces

Lying between 43° and 48°N. latitude, the Maritime Provinces comprise 51,000 sq. miles, an area almost equal to that of Southern Ontario. The region is one of varied relief and as a result of the long and deeply indented coastline no part of the area is more

than 100 miles from the sea; most of it less than 30 miles from salt water. The eastern and central parts of New Brunswick, most of the northern part of Nova Scotia and all of Prince Edward Island are lowlands. Much of northwestern New Brunswick is more than 1,000 feet above sea level, and the southern highlands also contain elevations above 1,000 feet. The practically flat-topped Cape Breton Plateau rises to an elevation of 1,200 feet and there are similar elevations in the Cobequid range in Nova Scotia.

Although the effects of the sea are everywhere noticeable, the climates of the Maritime Provinces are typically continental rather than maritime owing to their situation on the east coast of an immense continental land mass. Since the general movement of air masses is from west to east in these latitudes, air reaching the region has usually had a previous history over the Continent; for this reason the mean annual range of temperature is about twice as great on the Nova Scotia coast as on the west coast of Vancouver Island. On the other hand, influxes of moist Atlantic air produce mild spells in winter and periods of cool weather during the summer.

The winters are particularly stormy on the Atlantic Coast since the weather is controlled by cyclonic storms which tend to pass along the southern border of the region, preceding the invasion of cold polar air. These winter storms often produce violent gales and rains changing to snow. In summer the concentration of low pressure centres over the St. Lawrence Valley to the north leaves the Atlantic Provinces under the predominating influence of winds from the south, southwest or west.

The comparatively warm waters of the Gulf Stream and adjacent waters form a reservoir of moisture which aids in the production of fog especially along the Atlantic Coast of Nova Scotia and in the Bay of Fundy where some coastal stations report nearly 100 days with fog annually, with the greatest frequency in July. On the other hand, the cold Labrador Current, moving down the eastern shore of Newfoundland and with a branch entering the Gulf of St. Lawrence through the Strait of Belle Isle, cools the air passing over it and produces fogs at sea and along the coast with a peak frequency in the late spring months.

January is the coldest month and July the warmest in most sections of the Maritime Provinces but at some coastal points in Nova Scotia both the warmest and coldest periods are delayed several weeks owing to the moderating effect of the water. The effects of elevation and continental influences are clearly reflected in the winter temperatures with the mildest occurring along the Atlantic Coast of Nova Scotia where the mean temperature for the coldest month varies from 24° to 26°F. Along the south shore of the Bay of Fundy and in the Annapolis Valley, January means of 20° to 24°F. occur, with lower means of 18° to 20°F. general along the north shore. Towards the interior of New Brunswick lower winter temperatures prevail as illustrated by a January mean temperature of 14°F. at Fredericton and 8°F. at Edmundston. January mean temperatures average 18° to 20°F. on Prince Edward Island and 20° to 24°F. at Cape Breton Island. Cold polar air entering the region from the north does not moderate rapidly especially if the ridges are snow covered; in fact, extreme minimum temperatures of -30°F. may be anticipated in northwestern New Brunswick. The record low for the province is -52°F. at Chipman which compares with an extreme low temperature for Nova Scotia of -42°F. at Upper Stewiacke and -27°F. for Prince Edward Island at Charlottetown.

Summer temperatures are not as high in the Maritime Provinces as in Southern Ontario and Quebec at the same latitude. Mean temperatures for the warmest summer months are 60° to 65°F. along the Atlantic Coast of Nova Scotia and the shores of the Bay of Fundy, but on Prince Edward Island and in the interiors of Nova Scotia and New Brunswick July mean temperatures vary from 64° to 67°F. Occasionally during any summer month maximum temperatures in excess of 80°F. may be expected in all three provinces with extremes of heat more pronounced in New Brunswick. Extreme temperatures have exceeded 100°F. often in New Brunswick and occasionally in Nova Scotia but never at an official weather station on Prince Edward Island.

The advent of spring in the Maritime Provinces is much the same as in comparable latitudes in Ontario and Quebec, but temperatures do not fall so rapidly in autumn. Nevertheless there are wide variations with respect to the length of frost-free season throughout the region. Along the immediate shoreline and on the islands of the Bay of Fundy there is a frost-free period of 140 to 160 days but in the Miramichi highlands of New Brunswick where there is a greater liability of frosts from a spring or autumn inflow of polar air, the average frost-free period falls to less than 100 days. The frost-free period decreases from 140 days at the mouth of the St. John River to 100 days along the upper reaches. Periods free of frosts average about 120 days in the southwestern lake region of New Brunswick while along the east coast and along the south shore of the Bay of Chaleur the growing season is extended another ten days. In Nova Scotia an average frost-free season of 160 days is enjoyed at Yarmouth which is ten or fifteen days longer than most stations experience elsewhere along the Atlantic Coast. Periods free from frost of 125 to 140 days occur on the average in the Annapolis Valley but in the central highlands on the Nova Scotia mainland there is a comparatively short growing season of less than 100 days. On Cape Breton Island the frost-free period exceeds four months at Sydney but it is believed that this figure falls to less than 100 days on the higher elevations. Prince Edward Island enjoys a frost-free period of about five months.

Mean annual precipitation ranges from 55 inches along the outer coast of Nova Scotia to less than 40 inches in northwestern New Brunswick. The heaviest precipitation in the latter province, 42 to 48 inches, falls along the north shore of the Bay of Fundy. In the southern section of New Brunswick precipitation is fairly evenly distributed throughout the year with a tendency toward a maximum in the autumn and early winter months. In the northern interior the precipitation shows a summer maximum characteristic of the continental type of climate. Except for the wet Atlantic coastal area of Nova Scotia, precipitation in that province varies from 37 to 50 inches and on Prince Edward Island annual precipitation averages slightly more than 40 inches.

The heaviest winter snowfall in the Maritime Provinces occurs in northwestern New Brunswick where 100 to 120 inches may be expected. This heavy snowfall is of economic importance to lumbering. In the eastern and southern sections of the province winter totals generally range from 70 to 90 inches. Snowfall averages about 90 inches on the higher elevations in Nova Scotia but elsewhere totals are smaller—60 to 80 inches. On Prince Edward Island, a long record of snowfall observations at Charlottetown Experimental Farm gives an average winter fall of 113 inches.

Newfoundland

Newfoundland, the newest and most easterly province of Canada, consists of two distinct geographical units—the Island of Newfoundland comprising an area of 43,000 sq. miles and the mainland territory of Labrador with a much larger area of 113,000 sq. miles. In view of the physical separation of these two sections of the province, the climatic characteristics are discussed separately.

Island of Newfoundland.—The landform of the Island of Newfoundland is quite similar to that of the Maritime Provinces. The coastline is deeply indented with bays and inlets and the Island itself consists of a plateau rising in a northwesterly direction from the east coast to almost mountainous highlands on the west side of the Island. The greater part of the Island consists of bleak, flat terrain at elevations of 800 to 1,500 feet. Because of its position on the eastern side of North America, Newfoundland comes under the influence of continental air masses and experiences a wide range between summer and winter temperatures. However, as a result of the virtual encirclement of the Island by cold waters of the Labrador Current, the sea exerts a dominating influence on Newfoundland's climate moderating both summer and winter temperatures. Sea-ice which normally reaches its greatest extent in March retards the advent of spring especially on the eastern and northern shores.

Newfoundland coasts and offshore waters are foggy although no more so than the southern coast of Nova Scotia. These fogs result from the flow of warm, humid air over the cold waters of the Labrador Current and the Gulf of St. Lawrence. Unfortunately fogs are at their worst early in the navigation seasons when icebergs are most plentiful off the eastern coast. There is a marked decrease in the number of foggy days in the late summer. The frequency of strong winds and gales increases as autumn progresses. The Strait of Belle Isle has a reputation for cloudiness, and gales are not uncommon in this area even in mid-summer.

Winter temperatures in Newfoundland are noteworthy for the coldness of the interior, the mildness of the coasts, and the variability of the day-to-day temperatures. January mean temperatures vary between 15° and 20°F. in the interior and increase to 25°F. on the southeastern coasts. Following a late spring, summer is usually brief but pleasant. July mean temperatures are above 60°F. in the interior but the cool Labrador Current holds the mean temperature to slightly in excess of 55°F. along the southern and eastern coasts. Hot spells occur occasionally during the summer and maxima of 85°F. are not unusual along the railway belt across the interior. Temperatures decline rapidly in autumn, falling more quickly in the north than the south, thus ending the anomalous flat distribution of temperature across the Island typical of summer. The Long Peninsula presents a remarkable gradation in climate. At the southern end temperatures are representative of the central interior but at Belle Isle the mean July temperature is only 49°F. as a result of the cold Labrador Current which is often ice-laden even in mid-summer.

As elsewhere in Canada the mean duration of the frost-free period varies widely in Newfoundland. Along the south coast the frost-free season ranges from 140 to 150 days, with the Burin Peninsula the most favoured area. On the Avalon Peninsula the frost-free interval ranges from 110 to 140 days. In the interior of the Island the growing season averages 100 days or less, being shorter in areas where topography favours local drainage of cold air.

The whole Island has abundant precipitation and although well distributed throughout the year, autumn is a season of relatively heavy precipitation with November the wettest month in most localities. This is followed by a decline which reaches a relative minimum in April to rise again during the summer toward the autumn maximum. The south coast and southwestern sections of the Island have the greatest annual precipitation amounting to 50 to 60 inches. The northeastern section is drier, receiving 35 to 45 inches and scanty data indicate 30 to 35 inches at the northern end of the Long Peninsula.

Winter snowfall is heavy in most districts with more than 100 inches indicated everywhere except along the southern coastal area. Increasing distance from the coast and higher elevations combine to give the heaviest snowfall in the interior and western part of the Island. At Corner Brook winter snowfall averages 164 inches. Fragmentary data indicate that the normal depth of snow on the ground in the Avalon Peninsula does not exceed one foot but increases to two and one-half or three feet in the northwestern section of the Island.

Although glaze or ice storms are not uncommon in other parts of Canada, such storms reach their maximum intensity in Newfoundland where they are referred to locally as "silver thaw". These storms usually occur with a south wind when the ground and air near it are still below freezing, so that the rain resulting from the warm moist air over-riding the surface layer freezes as soon as it comes in contact with the ground or objects below freezing. If these storms continue for any length of time the ice accumulation builds up to a thickness sufficient to break down transmission wires, trees, and other objects. Such a devastating glaze storm struck the St. John's area over the first of March 1958 causing widespread damage.

Labrador.—Labrador extends over 9° of latitude, a distance of 600 miles. Physically it is the Atlantic slope of the Labrador-Ungava peninsula and the landform is a rough tilted plateau, highest in the north where the Torngat Mountains have peaks rising to over

5,000 feet. South of the Hamilton River, the largest river in the region, the Mealy Mountains reach heights of 4,000 feet. Thousands of small rocky islands lie off the rather abrupt, indented coast of the mainland.

The climate of all Labrador is severe, the yearly mean temperature for the whole area being below freezing. Along the coast January mean temperatures range from zero in the north to 10°F. in the south and are lower than -10°F. in the most westerly part of the interior. In the south, mean temperatures are above 32°F. for approximately 180 days and this figure decreases to 140 days in the north. Summer temperatures are cool along the coast owing to the influence of cold offshore waters, ranging from 45° to 50°F. in July, but are 5° to 10°F. warmer in the interior. Goose Airport with a mean July temperature of 61°F. has recorded an extreme summer maximum of 100°F. and an extreme winter low temperature of -38°F.

Along the Labrador coast the frost-free period extends to almost 100 days in the south, gradually decreasing to 40 days in the north. In the interior, Goose has an average frost-free period of 96 days and Sandgirt Lake 84 days based on a short record.

Annual total precipitation in Labrador decreases from 40 inches in the south to 20 inches in the north. Southern Labrador shares the rainy characteristics of the north shore of the Gulf of St. Lawrence. The winter snowfall pattern shows exceptionally heavy snow in the southeastern sections with Cartwright having 200 inches. In the interior, Goose, a location sheltered by high hills in every direction except northeast, has a mean snowfall of 141 inches. The ground is snow-covered for eight months in the far north with the period decreasing to six months in the south. Winter accumulation of snow by the end of winter usually reaches an average depth of five feet over most of Labrador and has exceeded seven feet on occasion in the snowier sections of the region.

The Northwest Territories

Constituting more than one-third of the total area of Canada, the Northwest Territories include the mainland Districts of Mackenzie and Keewatin and the Arctic Archipelago or District of Franklin. East of the western mountain fringe the mainland portion of the region consists of plains, high in the west and sloping gently to Hudson Bay on the east and to the Arctic Archipelago on the northeast. In the Archipelago, a high mountain range lies in a general north-south direction across Baffin, Devon and Ellesmere Islands with peaks rising above 10,000 feet. The extent to which the mountain range acts as a barrier to the free transport of air from one side to the other is not known, but there is little in the way of topography to interfere with the general north-south movement of air masses over this whole vast region.

Authentic weather information from far northern Canada was fragmentary until recent years. Log books of the early Arctic explorers provided limited information on the Polar Archipelago and weather data have been provided by the Hudson Bay Company, missionaries, explorers, members of the Royal Canadian Mounted Police and government officials from widely separated points. As a result of growing public interest in northern Canada, and in recognition of the great importance of weather information from this region for aviation and public weather forecasts, the number of reporting stations has been increased in recent years. Noteworthy in this regard is the establishment jointly by Canada and the United States of five weather stations on the remote islands of the Archipelago during the years 1947-50. The most northerly of these stations, Alert on Ellesmere Island, is less than 8° south of the Pole.

The extreme length of the night in winter and of the day in summer is the major factor in climatic control in high latitudes. North of the Arctic Circle the sun does not set in mid-summer nor rise in mid-winter. This latitudinal control of incoming radiation combined with the areal distribution of land and water broadly determines the climatic limits throughout the Northwest Territories. Most of the water surfaces are frozen over in winter when bitterly cold weather prevails over the entire area. The long hours of sunlight in summer warm the ground in the northwestern portion of the region and heat the lower layers of the atmosphere by conduction, producing mid-summer mean

daily temperatures of 55°F. as far north as the Mackenzie delta. On the other hand, in the northeast, the icy waters of the Arctic and the southward extension of the cold water in Hudson Bay provide a surface which, despite solar radiation, keeps average summer temperatures between 40° and 50°F. The southern limit of permafrost has been determined as running from the confluence of the Liard and Mackenzie Rivers, eastward along the north shore of Great Slave Lake and thence in a general southeasterly direction, crossing the 60th parallel of latitude just east of Lake Athabasca. The fact that only a small portion of the District of Mackenzie lies outside the permafrost area is an indication of the climate of the region.

The Mackenzie Basin.—A striking feature of the climate of the Mackenzie Basin is the wide range from summer to winter temperature. The long winters are intensely cold, -20°F. in January the coldest month; the summers have three months with temperatures over 50°F. with the warmest month, July, about 60°F. in the upper portion and 55°F. on the delta. Mean monthly temperatures are below 32°F. for seven months—October to April. Although winter minimum temperatures may fall below -70°F. and summer maxima rise above 95°F., such occurrences are infrequent. Except in summer the variation of the mean temperature for a month may be quite large. Local effects such as topography, distance from bodies of water, etc., have considerable influence on the length of the frost-free periods which varies from 50 to 100 days throughout the Mackenzie Basin.

As in other parts of the Northwest Territories precipitation is light in the Mackenzie Basin with a decided summer maximum. Annual totals range from 9 to 15 inches with considerable variability from year to year. Deficiency of precipitation appears to be the main check on such agricultural pursuits as other climatic and soil conditions may admit. Mean annual snowfall for the Mackenzie Valley averages 50 inches with a maximum in November. Snow is liable to fall in any month except July or August.

The Barrens.—The isotherm of 50°F. for the warmest summer month coincides fairly closely with the northern limit of tree growth. Beyond this line which runs from Aklavik to Churchill, the Barrens stretch northward to the Arctic and eastward to Hudson Bay. Most of the region is low-lying with countless lakes, swamps and muskeg. The climate is characterized by extremely short and cool summers and very long, cold winters. The cold Arctic seas, ice-covered for more than half the year, exert an unfavourable maritime influence on the region in summer.

Mean temperatures are below freezing for eight or nine months of the year and above 40°F. for only two months—July and August. During the warmest summer month the mean daily maximum rises to 55°F. or 60°F. and the mean daily minimum falls to about 40°F. Extreme summer temperatures have exceeded 85°F. generally in the Barrens. Spring comes very late, delayed by the slow melting of the ice, and subsequently, by the cold water of the sea, lakes and muskeg. Freezing temperatures may occur during any month of the year but on the average there is a frost-free period of 40 to more than 60 days throughout the region.

The Arctic coast is remarkably free of cloud in the mid-winter months but in the late summer and early autumn this region is among the cloudiest in Central Canada. Precipitation decreases from 12 inches in the south to seven or eight inches in the north, with snowfall contributing about 40 to 50 p.c. of the total moisture. The annual distribution of precipitation shows a maximum in the summer and early autumn and the ground is snow-covered for about eight months with the greatest monthly snowfall in October and November. Strong winds are frequent in winter especially in the District of Keewatin and the vast treeless expanses favour drifting which causes the snow to blow into the sheltered crevices and hollows and sweeps bare the open ground. Blizzards are most frequent near the coast of Hudson Bay.

The Arctic Archipelago.—The climate of the Arctic Archipelago may be classified as modified maritime Arctic. Despite the fact that mean annual temperatures are lower than in any other part of Canada, 15°F. in the extreme southeast and 0°F. in the very

far north on Melville and Ellesmere Islands, the extremes are not as severe as they would be in a continental area of the same latitude. During the cool brief summer the ice-filled polar waters with a surface temperature near 30°F. prevent the air in contact with them from warming up to any extent. Consequently, summer temperatures are uniformly cool throughout the entire region, averaging 40°F. to 45°F. during July, the warmest month. In winter most water surfaces are frozen but the new ice is usually less than six feet in thickness and radiation from the water below exerts a slight moderating influence. The highest January mean temperatures occur in the Hudson Strait region with values ranging from 0°F. to -5°F. at the eastern entrance and -10°F. to -15°F. at the western end. The lowest January means of -30°F. to -35°F. occur north of latitude 75°N.

Despite the fact that mean temperatures are generally below zero for six months or more, occasional mild periods occur during the Arctic winter. They are caused by intense cyclonic activity in the Davis Strait area which brings comparatively warm air from the Atlantic over the eastern Arctic. A striking example of such mild conditions occurred in January 1958 when the whole of the eastern Arctic experienced abnormal warming, with mean temperatures for the month as much as 15°F. above normal in northern Ellesmere Island. These mild spells rarely extend farther west than Cornwallis and Somerset Islands or farther north than the southern part of Ellesmere Island and the average variation in mean temperature for winter months in the western Arctic is less than half that for eastern Arctic stations. Freezing temperatures may occur during any month of the short cool summer.

The Arctic Archipelago is one of the driest regions in the world. The annual total precipitation over the islands north of the Parry group averages less than five inches, with Eureka reporting only 2.5 inches and Mould Bay only 3.0 inches a year. Southward from the Parry Islands there is an increase in annual precipitation with decreasing latitude with totals ranging from 5 to 10 inches between latitude 75°N. and the Arctic Circle. In southern Baffin Island the mean annual totals range from 10 to 15 inches. Snow may fall during any month of the year in the Arctic Archipelago but rainfall is restricted to the relatively short summer warm period. In the south 40 to 50 p.c. of the annual precipitation totals occurs as rain and in the very far north this is decreased to about 30 p.c. The accumulation of rime or hoar frost in the Arctic is also a source of moisture. Although showers, and even a rare thunderstorm, may occur occasionally in the southern part of the Archipelago, most summer rainfall is in the form of a light drizzle.

In the eastern Arctic there are two periods of maximum cloudiness, one in the spring and one in the autumn with a shallow minimum in mid-summer and a decided minimum in winter. For stations near the polar ice pack, the spring cloudiness maximum tends to be delayed and the autumn maximum advanced to such an extent that they merge into one with a minimum in winter. The high percentage of low cloud and drizzly weather produce very unpleasant conditions in the Arctic summer.

Although snowfall is light in the Arctic, a distinct maximum in the monthly snowfall is observed in the autumn and also a spring maximum which is not as marked in the southern half of the Archipelago as in the northern. In view of the small size of the snow crystals they are readily blown about by the wind with the result that much of the ground is bare all winter, whereas deep drifts are formed in ravines, hollows and in the lee of obstacles. The measurement of snowfall is very difficult in the Arctic.

The following table provides basic temperature and precipitation data for a selection of stations in various districts across Canada. Monthly and annual climatic data in greater detail will be presented for 45 stations in the 1960 Year Book.

Temperatures in this table refer to observations taken in a thermometer shelter which has been placed in a representative location with the thermometer bulbs four feet above the surface of the ground. Mean January and July temperature data are based on records over the 30-year period from 1921 to 1950 except for far northern stations where

the available period of record is shorter. After an average temperature is obtained for each day in January over a 30-year period, the mean January temperature may be arrived at by striking a mean of these 930 daily values. The mean July temperatures may be obtained in a similar manner. The highest and lowest temperatures on record refer to the absolute extremes for the entire period of record at each station. Average dates are shown for the last occurrence in spring of a temperature of 32°F. or lower and for the first occurrence in autumn of freezing temperatures at the four-foot level in the thermometer shelter.

The official Canadian rain gauge is a small cylinder in which the rain is caught and then measured to one-hundredth of an inch with a simple measuring device. Freshly fallen snow is measured as it lies on the ground and recorded to the tenth of an inch. Total precipitation values as shown in the table below are the sum of the total rainfall and one-tenth of the total snowfall. This assumes a specific gravity of 0.1 for freshly fallen snow. For the purposes of this table, a day with precipitation is one on which at least one-hundredth of an inch of rain or one-tenth of an inch of snow has fallen.

Temperature and Precipitation Data for Typical Stations in the Various Districts

District and Station	TEMPERATURES (Fahrenheit)						PRECIPITATION		
	Mean Jan.	Mean July	Highest on Record	Lowest on Record	Av. Dates of Freezing Temperatures (32°F. or Lower)		Total (All Forms) ⁽¹⁾	Snowfall	Av. Number of Days (All Forms)
					Last in Spring	First in Autumn			
British Columbia—							in.	in.	
Pacific Coast and Coastal Valleys—									
Estevan Point.....	40.4	56.3	80	7	Apr. 3	Nov. 12	107.66	10.2	203
Langara.....	37.6	54.8	78	6	Apr. 2	Dec. 2	67.79	20.8	255
Prince Rupert.....	35.7	56.2	88	-6	Apr. 19	Nov. 3	94.00	32.1	229
Vancouver.....	37.6	64.4	92	2	Apr. 1	Nov. 5	56.83	24.5	179
Victoria.....	39.2	60.0	95	-2	Feb. 28	Dec. 7	26.18	10.1	149
Southern Interior—									
Glacier.....	13.6	57.9	98	-32	June 10	Sept. 8	52.24	342.5	192
Invermere.....	13.3	63.1	99	-43	May 27	Sept. 12	11.52	30.2	92
Kamloops.....	22.3	70.4	107	-37	Apr. 25	Oct. 8	10.14	29.4	83
Penticton.....	26.7	68.7	105	-16	May 7	Oct. 3	11.50	25.4	109
Princeton.....	17.1	63.1	107	-49	June 11	Sept. 4	13.30	49.2	105
Central Interior—									
Barkerville.....	16.0	54.5	96	-52	June 25	Aug. 16	43.83	220.4	187
McBride.....	17.2	59.2	100	-50	June 18	Aug. 23	19.73	74.2	125
Prince George.....	14.6	59.6	102	-58	June 17	Aug. 24	22.16	66.5	166
Smithers.....	12.8	58.0	92	-47	June 22	Aug. 11	19.09	67.1	147
Northern Interior—									
Atlin.....	7.2	53.8	87	-54	June 11	Sept. 4	11.01	46.4	70
Dease Lake.....	-2.9	55.0	93	-60	July 2	Aug. 13	15.29	66.7	144
Fort Nelson.....	-7.3	61.7	98	-61	May 24	Sept. 2	16.37	66.8	115
Fort St. John.....	3.8	60.8	92	-53	May 25	Sept. 1	14.94	62.5	122
Smith River.....	-11.4	57.0	92	-74	July 2	Aug. 11	18.14	75.4	151
Yukon Territory—									
Dawson.....	-16.0	59.8	95	-73	June 4	Aug. 21	12.73	52.5	119
Snag.....	-18.9	57.3	89	-81	June 17	Aug. 7	13.82	52.8	109
Watson Lake.....	-7.2	58.6	93	-74	June 1	Aug. 25	16.75	77.0	141
Whitehorse.....	5.2	56.2	91	-62	June 10	Aug. 27	10.67	43.7	92
Prarie Provinces—									
Alberta—									
Beaverlodge.....	9.7	60.2	98	-54	May 30	Sept. 1	17.32	68.2	127
Calgary.....	15.8	62.4	97	-49	June 3	Sept. 3	17.47	57.0	105
Edmonton.....	7.7	62.9	99	-57	May 29	Sept. 6	17.63	52.9	126
Medicine Hat.....	13.7	70.2	108	-51	May 15	Sept. 18	13.55	41.6	98

(1) Total rainfall and one-tenth of the total snowfall.

Temperature and Precipitation Data for Typical Stations in the Various Districts—continued

District and Station	TEMPERATURES (Fahrenheit)						PRECIPITATION		
	Mean Jan.	Mean July	Highest on Record	Lowest on Record	Av. Dates of Freezing Temperatures (32°F. or Lower)		Total (All Forms) ¹	Snowfall	Av. Number of Days (All Forms)
					Last in Spring	First in Autumn			
Prairie Provinces—concl.							in.	in.	
Saskatchewan—									
Regina.....	2.3	66.6	110	-56	June 5	Sept. 6	15.09	40.1	113
Saskatoon.....	0.8	66.4	104	-55	May 24	Sept. 13	14.40	36.1	104
Swift Current.....	9.8	67.2	107	-54	May 27	Sept. 10	14.89	40.2	112
Manitoba—									
Churchill.....	-17.3	54.7	96	-57	June 28	Aug. 30	15.01	55.2	102
The Pas.....	-6.2	64.9	100	-54	May 30	Sept. 9	16.98	53.2	102
Winnipeg.....	0.6	68.4	108	-54	May 27	Sept. 15	19.72	49.4	119
Ontario—									
Northern—									
Kapuskasing.....	-1.3	62.8	101	-53	June 14	Sept. 5	27.99	95.8	142
Port Arthur—									
Port William.....	7.6	63.4	104	-42	June 4	Sept. 7	31.62	93.4	137
Sioux Lookout.....	-1.3	65.0	103	-51	June 1	Sept. 15	25.96	74.5	157
Trout Lake.....	-10.8	60.5	95	-54	June 16	Sept. 15	24.74	85.1	146
Southern—									
London.....	22.5	69.6	106	-27	May 16	Oct. 1	38.24	77.0	160
Ottawa.....	12.0	68.6	102	-38	May 11	Sept. 29	34.89	80.5	145
Parry Sound.....	16.2	67.8	100	-39	May 15	Oct. 2	37.87	118.2	162
Toronto.....	24.5	70.8	105	-26	May 3	Oct. 15	30.93	54.6	143
Windsor.....	25.6	72.5	101	-27	Apr. 29	Oct. 15	33.43	35.8	139
Quebec—									
Northern—									
Port Chimo.....	-12.9	52.6	90	-51	June 25	Aug. 14	16.37	68.8	157
Knob Lake.....	-11.9	55.1	88	-59	June 21	Aug. 30	27.55	128.6	193
Nitchequon.....	-10.6	56.5	90	-57	June 14	Sept. 13	30.88	116.3	193
Port Harrison.....	-14.8	46.8	86	-57	July 5	Aug. 20	14.64	73.3	134
Southern—									
Bagotville.....	2.9	63.8	96	-46	June 1	Sept. 16	38.72	130.3	160
Father Point.....	9.7	58.1	90	-32	May 22	Sept. 26	33.56	108.0	147
Montreal.....	15.4	70.4	97	-29	Apr. 28	Oct. 17	41.80	100.8	160
Quebec.....	12.0	67.6	97	-34	May 11	Oct. 5	44.76	123.7	171
Sept. Iles.....	3.2	59.2	90	-46	June 4	Sept. 10	41.94	165.5	143
Sherbrooke.....	14.0	67.6	98	-42	May 18	Sept. 23	38.93	97.2	176
Atlantic Provinces—									
New Brunswick—									
Chatham.....	12.7	66.5	102	-43	May 21	Sept. 28	36.71	88.5	152
Grand Falls.....	8.7	64.7	98	-46	May 28	Sept. 20	38.42	106.3	101
Moncton.....	16.1	65.8	99	-33	June 1	Sept. 14	40.97	108.4	130
Saint John.....	19.8	61.8	93	-21	May 4	Oct. 16	47.39	80.0	170
Nova Scotia—									
Annapolis Royal.....	24.4	65.3	91	-13	May 20	Oct. 6	41.35	68.0	144
Halifax.....	24.4	65.0	99	-21	May 13	Oct. 12	54.26	64.1	159
Sydney.....	22.7	65.0	98	-25	May 29	Oct. 13	50.61	96.6	169
Yarmouth.....	27.0	61.6	86	-12	May 7	Oct. 14	47.08	83.1	151
Prince Edward Island—									
Charlottetown.....	18.8	66.6	98	-27	May 16	Oct. 14	43.13	112.7	156
Newfoundland—									
Island of Newfoundland—									
Belle Isle.....	11.0	48.6	73	-31	June 19	Sept. 24	33.19	98.8	152
Gander.....	18.6	61.6	96	-15	June 1	Oct. 3	39.50	119.2	194
St. Andrews.....	25.2	59.9	81	-11	June 11	Sept. 28	42.47	54.8	156
St. John's.....	24.0	60.0	93	-21	June 2	Oct. 10	53.09	114.1	201

¹ Total rainfall and one-tenth of the total snowfall.

Temperature and Precipitation Data for Typical Stations in the Various Districts—concluded

District and Station	TEMPERATURES (Fahrenheit)						PRECIPITATION		
	Mean Jan.	Mean July	Highest on Record	Lowest on Record	Av. Dates of Freezing Temperatures (32°F. or Lower)		Total (All Forms) ¹	Snowfall	Av. Number of Days (All Forms)
					Last in Spring	First in Autumn			
Newfoundland—concl.							in.	in.	
Labrador—									
Cartwright.....	5.8	55.5	97	-36	June 26	Sept. 9	40.31	200.6	165
Goose.....	0.8	60.5	100	-33	June 10	Sept. 14	28.66	140.9	164
Nain.....	-2.5	50.4	91	-37	July 3	Aug. 12	28.69	128.2	121
Northwest Territories—									
Mackenzie Basin—									
Fort Good Hope.....	-21.0	59.8	95	-79	June 14	Aug. 6	12.18	57.3	110
Fort Simpson.....	-15.1	62.4	97	-69	June 4	Aug. 28	12.13	45.2	97
Hay River.....	-11.6	59.8	96	-62	June 11	Sept. 7	12.02	46.8	99
Barrens—									
Baker Lake.....	-30.0	50.5	82	-53	June 30	Aug. 25	6.74	21.8	71
Chesterfield.....	-25.6	48.0	86	-60	June 30	Sept. 4	11.12	51.5	96
Coppermine.....	-19.0	49.0	87	-53	June 28	Aug. 18	10.87	55.5	105
Arctic Archipelago—									
Clyde River.....	-16.7	40.4	71	-47	"	"	10.04	69.4	89
Eureka.....	-36.3	41.9	67	-63	June 22	Aug. 2	2.49	13.9	50
Frobisher Bay.....	-15.8	45.7	76	-49	June 24	Aug. 27	13.53	73.1	104
Mould Bay.....	-28.9	38.0	59	-63	"	"	2.98	19.1	74
Resolute.....	-28.2	39.7	60	-61	"	"	5.28	28.0	93

¹ Total rainfall and one-tenth of the total snowfall.² No appreciable period free from frost.

REFERENCES AND SOURCE MATERIAL

The Meteorological Branch of the Department of Transport, Toronto, regularly prepares and issues a series of current climatic data publications. These are listed below along with references to recent special publications issued by the same Branch. Detailed and extensive studies of the provincial and regional climates of Canada have been prepared and published both commercially and by other governmental agencies.

1. Regular publications of the Meteorological Branch:—

Monthly Meteorological Summaries from 25 cities and towns in Canada.

The Monthly Weather Map.

Monthly Record of Meteorological Observations in Canada.

General Summaries of Hourly Weather Observations in Canada (annual).

2. Special publications of the Meteorological Branch:—

Climatic Summaries for Selected Meteorological Stations in Canada: Vol. I, Temperature, precipitation, sunshine, 1947. 63 p.; Vol. II, Humidity and wind. 1948. 88 p.; Addendum to Vol. I, Temperature and precipitation. 1954. 29 p.; Vol. III, Frost data. 1956. 94 p.

3. Chapman, J. D. The climate of British Columbia (Proceedings of Fifth British Columbia Natural Resources Conference). 1952. 47 p.

4. Chapman, L. J. The climate of northern Ontario. Can. J. Agric. Sci. 33:141-73. Jan.-Feb. 1953.

5. Hare, F. K. The climate of the eastern Canadian Arctic and Subarctic and its influence on accessibility. Ph.D. Thesis, University of Montreal, 1950.

6. Hare, F. K. The climate of the Island of Newfoundland: a geographical analysis. *Geographical Bulletin* No. 2. pp. 36-88. Ottawa, 1952.
7. Kendrew, W. G. and B. W. Currie. The climate of Central Canada. Queen's Printer, Ottawa. 1955. 194 p.
8. Kendrew, W. G. and D. Kerr. The climate of British Columbia and the Yukon Territory. Queen's Printer, Ottawa. 1956. 222 p.
9. Putnam, D. F. (editor) Canadian regions—a geography of Canada. Dent, Toronto. 1952. 601 p.
10. Putnam, D. F. and L. J. Chapman. The climate of southern Ontario. *Sci. Agric.* 18:8: 401-446. April 1938. (In condensed form by L. J. Chapman in *Can. Geogr. J.*, 17:3:136-141. September 1938.)
11. Rae, R. W. Climate of the Canadian Arctic Archipelago. Canada Dept. of Transport, Toronto. 1951. 90 p.
12. Thomas, M. K. Climatological Atlas of Canada. National Research Council, Div. of Building Research and Canada Dept. of Transport, Meteorological Div. N.R.C. No. 3151. Ottawa, 1953. 253 p.

Section 2.—Meteorological Observing Stations in Canada*

In 1958 official meteorological observations were taken and recorded at some 1,750 weather reporting stations in Canada. There are several different classes of stations, ranging from the first-order reporting stations at airports where hourly observations of all aspects of the weather are recorded, to the co-operative precipitation observing stations where a volunteer observer makes daily observations of rainfall and snowfall.

The official recording of weather observations in Canada began early in 1840. Although there are some scattered weather records prior to that date, it was at the Toronto Observatory, established by the British Government, that the first scientifically precise Canadian weather observations were recorded. Several additional observing stations were established in the 1860's after control of meteorological work had passed into local governmental hands and a national meteorological service was organized in 1871. By 1876 there were more than 100 stations, 15 of them reporting daily by telegraph to Toronto for forecasting purposes.

Since then, the number of meteorological observing stations has grown steadily. As the mid-west opened up around the turn of the century, they spread into that area and during the past three decades into the sub-Arctic and Arctic regions. At the same time the coverage has improved in the older portions of southeastern Canada. While there are vast areas of Canada where the weather stations are several hundred miles apart, most of the settled portions of the country are represented by first-order hourly reporting stations every 100 miles or so, and by co-operative climatological observing stations at least every 25 miles.

Of the 1,750 weather reporting stations in Canada in 1958, some 250 are classified as first-order synoptic stations. At most of these stations complete weather observations are made every six hours and at a large percentage of them only slightly less complete observations for aviation forecasts every hour. These weather data, including information on temperature, precipitation, pressure, wind, humidity, cloud and visibility, are sent first by radio and teletype to the different weather offices across the Continent to be used for weather forecasting purposes and at the end of the month the manuscript reports are despatched by mail to Meteorological Headquarters for use in compiling climatic statistics. At some 90 of these observing stations, personnel of the Telecommunications Branch of the Department of Transport take weather observations as part of their scheduled duties, while 35 stations are operated in a similar manner by the different Armed Services. Seventy

* Prepared by the Meteorological Branch, Department of Transport, Toronto.

stations are operated by Meteorological Branch personnel and the remainder of the stations are operated under contract mainly by various transportation and communications companies.

About 950 weather observing stations in Canada are classified as climatological stations where the observers record temperature extremes and precipitation once or twice daily and send in monthly data sheets. Most of these climatological observers serve on a voluntary basis and willingly spend several hours a month on their hobby. These observers come from all walks of life—farmers, business men, clergymen, retired people, etc. In addition, many governmental and industrial organizations such as agricultural experimental farms and power companies have incorporated brief climatological duties into the general work of some of their employees. These climatological stations have contributed much useful information on temperature and precipitation for publication by the Meteorological Branch.

There are about 500 stations classified as precipitation stations where rainfall and snow-fall only are observed and recorded. Since precipitation varies more rapidly than temperature over short distances, a dense network of these stations is required, especially in large urban areas. Finally, there are about 50 miscellaneous stations where observations of wind, sunshine and temperature are taken for special purposes. In all, the total number of weather stations in Canada has been growing at a rate of more than fifty a year for the past decade and thus a steadily increasing climatic intelligence is assisting Canadians in all economic pursuits.

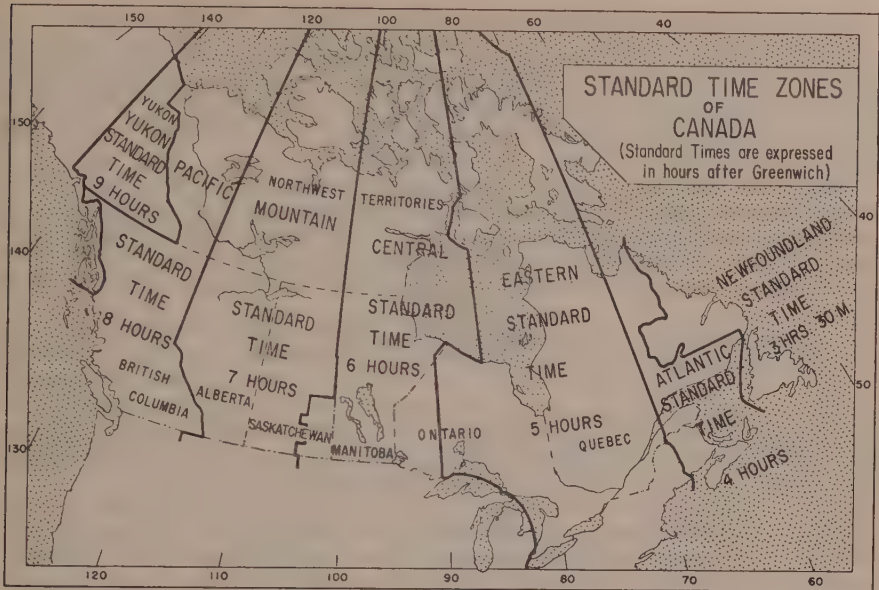
Section 3.—Standard Time and Time Zones

Standard time, which was adopted at a World Conference held at Washington, D.C., in 1884, sets the number of time zones in the world at 24, each zone extending over one twenty-fourth of the surface of the earth and including all the territory between two meridians 15° longitude apart. The basis of world time is Greenwich time and all other time zones are a definite number of hours behind Greenwich.

Canada has seven time zones, the most easterly being Newfoundland standard time, three hours and thirty minutes behind Greenwich time. In the west, Pacific standard time, used throughout British Columbia and part of the Northwest Territories, is eight hours behind Greenwich, and Yukon standard time, used throughout the Yukon Territory, is nine hours behind Greenwich. Some municipalities adopt the time used by the local railways which, in certain cases, differs from the standard. There are also villages that adopt such time as seems best to suit their convenience but in general the legal boundaries of the different time zones are actually in use.

Daylight Saving Time.—For some years before World War I there was active propaganda, particularly in the cities, for the use during the summer months of an earlier time usually referred to as 'daylight saving time', one hour ahead of standard time. It was considered from the economic as well as from the health point of view that people in industrial towns and cities would gain by having longer periods of sunlight at their disposal for recreation. Canada adopted daylight saving time in 1918 but the Canadian Act lapsed at the end of that year. Since that date, however, most cities and towns have adopted daylight saving for varying periods in the summer months.

Legal Authority for the Time Zones.—Most of the regulations made in Canada concerning standard time have been passed by the provincial legislatures and the Northwest Territories Council. Legislation, besides determining the boundaries of zones, regulates such matters as the times of coming into effect or expiration of Acts, ordinances, contracts and agreements, times of opening and closing registration offices, law courts, post offices and other public offices, times of open or close seasons for hunting and fishing, and times of opening and closing business houses and places of amusement.



PART IV.—GEOPHYSICS AND ASTRONOMY

Section 1.—Geophysics

Geophysics began with the observations made by early navigators of the weather, ocean tides and the lodestone. These studies gradually developed into modern meteorology, physical oceanography and terrestrial magnetism. To them were added other physical studies of the earth so that geophysics now includes also seismology—the study of earthquakes; hydrology—the study of waters in rivers, lakes, glaciers and underground (but not in the oceans); volcanology—the study of volcanoes and the earth's heat; tectonophysics—the study of the forces that build mountains and slowly cause changes in level of land and sea; the study of the earth's gravity; and several minor studies such as the determination of the ages of ancient rocks and minerals from their content of radioactive elements. In addition magnetic, electrical, gravitational, seismic and radioactive methods of geophysical prospecting are used to direct drilling in almost all the searches going on in Canada for oil and gas. Both airborne and ground devices are widely used by mining companies to prospect for metals.

The Dominion Observatory, the Geological Survey at Ottawa and the Physics Department of the University of Toronto are carrying out major programs of geophysical research. Several other universities across the country and various provincial governments are also doing geophysical work while the major oil companies as well as many other prospecting establishments have developed geophysical techniques as their most effective approach to the problem of finding oil fields and mineral deposits. A detailed study of these activities is given in the 1956 Year Book, pp. 42-55.

Of particular current interest is the international program of scientific work known as the International Geophysical Year, which is designed to make a concentrated study of the physics of the earth and its atmosphere. This program and Canada's part in it is described in the following special article.

THE INTERNATIONAL GEOPHYSICAL YEAR*

The International Geophysical Year is a world-wide organization by scientists, the objective of which is to concentrate on measurements of the earth and its atmosphere for a period of eighteen months. Eighteen months were chosen because of climatic differences between the Arctic and Antarctic. Access is convenient during the warm periods in the two areas which, of course, are six months apart.

This is the third such program of international scientific co-operation. The first two in 1882-83 and 1932-33 were known as International Polar Years and were limited to geophysical measurements in polar areas, mostly in the Arctic. The current effort was expanded to include the whole earth. The program was planned mainly for the solution of problems that require measurements over the whole surface of the earth for their solution.

The period selected was from July 1, 1957 to Dec. 31, 1958. At the time of writing this period is about three-quarters completed but it is still too early to present the results of the effort in any detail. Some of the data obviously cannot be analysed completely until the program is over and in many phases of the work it is several months before the results can be put in a form for distribution. For instance, an examination of the reports from World Data Centres shows that on July 1, 1958, when the IGY was two-thirds completed, on the average only about six months' data had been received.

A note about the distribution of data may be of interest. Four World Data Centres have been organized by the International Committee for the IGY. The two primary centres (A and B) are in the United States and in the Union of Soviet Socialist Republics. The other two centres (C and D) are in Western Europe and in Japan. The exact location of the Data Centre in each case depends on the discipline and the centres are located in the most obvious headquarters for research in the project concerned. For instance, in the United States the World Data Centre A for meteorology is in the United States Weather Bureau at Washington while for the ionosphere it is at the Central Radio Propagation Laboratories of the National Bureau of Standards at Boulder, Colorado.

These World Data Centres have the duty of maintaining a catalogue and copies of all the IGY data, which will be considerable in volume. All of the 3,500 proposed IGY stations (it is not known at the time of writing how many actually have been established but the numbers proposed that could not be established is not expected to be large) were asked to send their data to all four Data Centres although it was agreed that if four copies were not available one Data Centre would reproduce it for the others. Further distribution is being made to any research group taking part in the IGY on payment of the cost of reproduction.

The fifteen disciplines are listed as follows:—

- | | |
|--------------------------------|---|
| I. World Days | IX. Glaciology |
| II. Meteorology | X. Oceanography |
| III. Geomagnetism | XI. Rockets and Satellites |
| IV. Aurora and Airglow | XII. Seismology |
| V. Ionosphere | XIII. Gravity |
| VI. Solar Activity | XIV. Radioactivity in the Earth's
Atmosphere |
| VII. Cosmic Rays | XV. Meteor Studies |
| VIII. Longitudes and Latitudes | |

Meteor Studies is not included as a separate field in the international program but is listed separately in the Canadian program because the study of the upper atmosphere by the examination of meteor trails is an important subject in the National Research Council's Upper Atmosphere Research Group. In the 1957-58 edition of the Canada Year Book at pp. 35-37 there is a short review of the objectives in each of these disciplines. The first, *World Days*, should hardly be considered a discipline but since a working committee was formed for it parallel to those in the other divisions of geophysics it is listed as such. Certain periods known as world days or world intervals have been chosen during which a

* Prepared by Dr. D. C. Rose, Chairman of the Co-ordinating Committee, Canadian IGY Program, National Research Council, Ottawa.

special effort is made in the types of measurements that are difficult or too expensive to carry out continuously. The problem of communications and rapid exchange of information was one that arose particularly because a series of world days were planned that could not be selected in advance but were called often on short notice when solar, magnetic, ionosphere and aurora observations suggested unusually enhanced solar activity. A predicting centre for such days was set up at Fort Belvoir, Virginia, near Washington. Up to July 1, 1958, that is during the first year of the IGY, the number of alerts broadcast was 27 and 13 special world intervals were called. However, by far the largest part of the program was organized on a continuous basis and in such cases the calling of special world intervals makes very little difference to the measurements taken. Expensive experiments like the firing of rockets into the upper atmosphere might depend on the prediction of solar activity but usually these have to be carried out very close to a time planned in advance and often cannot be held to await some unusual activity on the sun. The world intervals that were planned in advance of the program, such as quarterly periods of ten days during which enhanced meteorological measurements are taken, do not involve any special problems in communications.

A very dominant part of the whole IGY program is a study of the effect of the sun on the geophysical phenomena that strongly influence man's environment on the surface of the earth. This applies to very practical problems like studies in meteorology and radio propagation as well as more academic research on the radiation from the sun that is completely absorbed by the atmosphere and, therefore, can be measured only indirectly or by penetrating the atmosphere with balloon-borne, rocket-borne or satellite-borne instruments. The disciplines concerned are meteorology, geomagnetism, aurora and air-glow, ionosphere, solar activity, cosmic rays and rockets and satellites. Rockets and satellites are, of course, a means to the objective of taking measurements outside the atmosphere but the science of firing them when and where desired and of constructing useful measuring instruments in the space available and of light weight justifies treatment as a specialty.

Much of the upper atmosphere phenomena, such as the electric currents that are believed to cause magnetic storms, changes in the electron density in the ionosphere and the incidence of aurorae are caused in some way by streams of charged particles coming from the sun. These are influenced by the earth's magnetic field in a way that the resulting phenomena show most interesting variations in regions near the magnetic poles. For instance, aurorae are most frequent in a roughly circular band about 20° away from the geomagnetic poles. Churchill in northern Manitoba happens to be just about the centre of this band. In fact Canada has the only readily accessible territory in the world that adequately crosses the aurora band and where stations can be established not only on the band but well north of it. It is not unnatural therefore that in planning the Canadian program responsibilities in this regard were taken very seriously and as tight a chain of stations as was practical were planned. Every station planned in the national report of 1957* has been established in some form. In a few cases, instrumental difficulties or difficulties in getting staff or accommodation at remote points has been a limiting factor but it is no exaggeration to say that Canada's program has been carried out almost as planned, and it is anticipated that at least 90 p.c. of the data that was suggested in the Canadian program will be available when the IGY is over.

Perhaps the most spectacular results of the IGY that can be presented now (October 1958) are the results from measurements taken in rockets and satellites. The general objectives of these experiments are to study the physical and chemical properties of the atmosphere at heights that can be reached only by such techniques and to study radiation from the sun and sky at wave lengths that do not penetrate the atmosphere; the atmosphere is practically opaque to all light or electromagnetic radiation of shorter wave length than the violet end of the visible spectrum. This means that the radiation from the sun or skies cannot be observed in the ultra-violet, soft X-ray, or X-ray region. Even the very

* *The Canadian Program for the International Geophysical Year*, May 1957, published by the Associate Committee on Geodesy and Geophysics of the National Research Council.

penetrating cosmic rays that reach the earth's surface are secondary particles, or radiation generated in the atmosphere by interactions between primary cosmic rays and the nuclei of air atoms.

It is well known that radiation or streams of particles from the sun are responsible for chemical changes in the upper atmosphere, such as the formation of ozone and for keeping the highly ionized layers known as the ionosphere in an active state, but until rockets and satellites became practical scientific instruments, only deductions from indirect measurements indicated anything about the chemical and physical processes involved. Reflection of radio waves gives the electron density up to about 300 kilometers. The spectroscopy of the night sky and aurora in the visible spectrum tells something about the chemical composition but still leaves large gaps in the knowledge of the chemical composition, the nature of the radiation responsible for the ionization and of the distribution of pressure, density and temperature. Though the average radiation from the sun is very constant, in the ultra-violet and X-ray region and the streams of particles from the sun, the intensity is extremely variable.

For detailed results of the rocket and satellite measurements it is necessary to consult scientific publications but a few highlights may be presented here. The density of the gas at satellite orbit heights in the atmosphere is several times higher than was anticipated. The temperature rises rapidly above a minimum at about 80 kilometers and in fact it is generally becoming accepted that the earth is travelling in the atmosphere of the sun, that is, the solar corona extends to the orbit of the earth.

In an attempt to measure cosmic ray particles, the United States satellite group found a very intense layer of energetic particles starting at about 300 kilometers and increasing in numbers up to the maximum height of their measurements (1,600 kilometers). Many more measurements are necessary to decide whether these are electrons or protons or a mixture of the two and to study their spectrum and the height to which the layer extends. Such measurements as have been presented suggest that a human being travelling at the upper level where measurements are being taken might be exposed to two roentgens per hour. The comparison of this with the usually accepted safety tolerance for continuous exposure of about one-tenth of a roentgen per week indicates the great need for more knowledge.

The rocket and satellite program in countries like the United States, the Union of Soviet Socialist Republics and the United Kingdom was started before the IGY though, without doubt, the IGY organization gave it considerable stimulus in all countries. Certainly the IGY international meetings have created an excellent forum for the exchange of interesting scientific results and recent experience shows the value of such exchanges in reducing serious conflicts between countries of different political ideologies.

Canada's part in the rocket and satellite program has not been negligible even though no specific program was undertaken by this country. The United States has established a unique rocket launching facility at Churchill. This facility is designed for scientific work and during the IGY there has been no military objective included so that the whole range is operating for purely scientific purposes. The Canadian Armed Services act as hosts to the American group and the Defence Research Board's Northern Laboratory at Churchill supplies laboratory space and facilities. The Canadian Armament Research and Development Establishment at Valcartier is using two United States rockets for upper atmosphere investigations in infrared radiation. The Department of Transport takes part in the necessary meteorological work and in communications. The University of Saskatchewan's Aurora Research Group is carrying out some of the ground measurements on aurora to facilitate the actual firing of rockets into auroral displays.

The question of the continuation of the IGY was raised at a meeting of the International Committee on the IGY in Moscow in August 1958. The scientists in some countries feel that the measurements being taken and data exchanged are of such great value that the whole program should be continued at least until the end of 1959, one year longer than

originally planned. A recommendation for continuation has been adopted but some curtailment of the program soon after the end of 1958 is certain in countries that undertook extensive enlargement of their geophysical research on a temporary basis.

These notes have emphasized the highlights of the international program rather than a review of the Canadian program. In summary it can be said that Canadian scientists are active in all fifteen disciplines. Government agencies concerned include the Department of Mines and Technical Surveys, Department of National Defence, National Research Council, Department of Transport, and Fisheries Research Board. Several Canadian universities take a prominent part in the work. The Canadian program is decentralized to a large extent among leading groups in the various disciplines but is co-ordinated by a small committee appointed by the National Research Council with headquarters at Ottawa.

Section 2.—Astronomy

The modern era of astronomy in Canada may be said to have begun in 1905 with the completion of the Dominion Observatory, the national observatory of Canada. Prior to that an astronomical observatory established in 1851 at Fredericton, N.B., was used for a short time to determine the longitude of that centre and for general astronomical purposes; it has recently been rehabilitated as a historic monument. Other small observatories were established, one at Quebec City in 1854 and one at Kingston in 1875. Astronomical instruments were to be associated with the Magnetic Observatory built by the British Government at Toronto in 1839 but there is no record of them being set up until 1881. A small observatory established at McGill University in 1879 was used for many years for time observations.

Today the science of astrophysics is carried on mainly by three Canadian institutions: the Dominion Observatory at Ottawa, Ont., the Dominion Astrophysical Observatory at Victoria, B.C., both of which are administered by the Department of Mines and Technical Surveys, and the David Dunlap Observatory associated with the University of Toronto. Of the two Government institutions, the Dominion Observatory at Ottawa specializes mainly in the astronomy of position, in solar physics and in various branches of geophysical work, while the major effort in astrophysics is concentrated at the Dominion Astrophysical Observatory at Victoria. A new observatory for the study of radio astronomy is being erected at White Lake near Penticton, B.C., and will be jointly operated by the Dominion Observatory and the Dominion Astrophysical Observatory. The David Dunlap Observatory, founded in 1935, is equipped with very fine astrophysical instruments of a kind similar to those in use at Victoria. It performs not only the functions of a privately financed and administered research institution but is also the nucleus of the Department of Astronomy at Toronto University. In addition to the work of these three major institutions and a number of smaller observatories, investigations in the field of meteoric astronomy and radio astronomy are conducted by the National Research Council.

CHAPTER II.—CONSTITUTION AND GOVERNMENT

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NOTE.—The interpretation of the symbols used in the tables throughout the Year Book will be found facing p. 1 of this volume.

PART I.—CONSTITUTION OF CANADA

The Canadian federal state was established by the British North America Act, 1867, which united the three British North American provinces of Canada, New Brunswick and Nova Scotia into one country, divided into four provinces, namely, Ontario, Quebec, New Brunswick and Nova Scotia. British Columbia entered the Union in 1871 and Prince Edward Island in 1873. The Province of Manitoba was created in 1870 and the Provinces of Saskatchewan and Alberta in 1905 out of portions of the territories formerly held by the Hudson's Bay Company which had been admitted to the Union in 1870. Newfoundland entered the Union in 1949. Canada now consists of ten provinces and two territories known as the Yukon Territory and the Northwest Territories.

The British North America Act of 1867 divided both legislative and executive authority between Canada and the provinces. Judicial authority was not similarly divided, federal and provincial courts having jurisdiction with respect to both federal and provincial laws.

Although the British North America Act of 1867 and its subsequent amendments is popularly regarded as the Constitution of Canada, it is not an exhaustive statement of the laws and rules by which Canada is governed. The Constitution of Canada in its broadest sense includes other statutes of the United Kingdom Parliament (e.g., the Statute of Westminster, 1931), statutes of the Parliament of Canada relating to such matters as the succession to the Throne, the demise of the Crown, the Governor General, the Senate, the House of Commons, electoral districts, elections, Royal Style and Titles, and also statutes of provincial legislatures relating to provincial government and provincial legislative assemblies. Other written instruments such as the Royal Proclamation of 1763, early instructions to Governors, Letters Patent creating the offices of Governors and

Governors General, and Orders in Council passed pursuant to the British North America Act also form part of the Canadian constitutional system. In addition the Constitution of Canada includes well-established usages and conventions. The preamble to the British North America Act states that it was the desire of the original provinces to be united "with a constitution similar in principle to that of the United Kingdom" and, accordingly, many of the usages and conventions of government that have been developed in the United Kingdom over the centuries are followed in Canada. For example, the Cabinet system of responsible government as developed in the United Kingdom obtains in Canada although no mention thereof is made in the British North America Act.

No provision was made in the British North America Act of 1867 for amendment thereof by any legislative authority in Canada but both the Parliament of Canada and the provincial legislatures were given legislative jurisdiction with respect to some matters relating to government. Thus, for example, the Parliament of Canada was given jurisdiction with respect to the establishment of electoral districts and election laws and the privileges and immunities of Members of the House of Commons and the Senate, and each provincial legislature was empowered to amend the constitution of the province except as regards the office of Lieutenant-Governor. By an amendment to the British North America Act passed in 1949 the authority of the Parliament of Canada to legislate with respect to constitutional matters was considerably enlarged and it may now amend the Constitution of Canada except as regards the legislative authority of the provinces, the rights and privileges of provincial legislatures or governments, schools, the use of the English or the French language, and the duration of the House of Commons other than in time of real or apprehended war, invasion or insurrection.

Canada's Status in the Commonwealth of Nations.*—The several stages in the development of the status of Canada have been authoritatively described in the reports of successive Imperial Conferences including that held at London in 1926 which defined the group of self-governing communities consisting of the United Kingdom and the Dominions as "autonomous communities within the British Empire, equal in status, in no way subordinate one to another in any aspect of their domestic or external affairs, though united by a common allegiance to the Crown, and freely associated as members of the British Commonwealth of Nations". That Conference also recognized that, as a consequence of this equality of status, the Governor General of a Dominion "is the representative of the Crown, holding in all essential respects the same position in relation to the administration of public affairs in the Dominion as is held by His Majesty the King in Great Britain", and that "it is the right of the Government of each Dominion to advise the Crown in all matters relating to its own affairs". Simultaneously with this change in the constitutional relationship between the several parts of the British Commonwealth of Nations there developed as a complementary aspect of nationhood the assumption by the several Dominions of further responsibilities and rights of sovereign States in their relations with other members of the community of nations. Membership in the League of Nations and more recently in the United Nations, the exercise of treaty-making powers and the establishment of separate diplomatic representation in a number of foreign countries have characterized this phase in the growth of Canada. More explicit recognition of the implications of the principles of equality of status was accorded in the Statute of Westminster of 1931 which provided for the removal of the remaining limitations on the legislative autonomy of the Commonwealth nations.

Thus Canada, under the Crown, has equality of status with the United Kingdom and the other Commonwealth nations in both domestic and foreign affairs; its Government advises the Crown in the person of the Governor General on all matters relating to Canada. Canada has membership in the United Nations; makes its own treaties; appoints its own ambassadors and other representatives abroad; levies its own taxes; makes its own laws which are executed by a government dependent on the will of a majority of the people; and maintains its own naval, military and air forces. In short, Canada has achieved full status of democratic nationhood within the Commonwealth of Nations.

* A more detailed account is given in the 1952-53 Year Book, pp. 101-104.

1.—Provinces and Territories of Canada, Dates of Admission to Confederation, Legislative Processes by which Admission was Effected and Present Areas

Province, Territory or District	Date of Admission or Creation	Legislative Process	Present Area (sq miles)
Ontario ¹	July 1, 1867	Act of Imperial Parliament—The British North America Act, 1867 (30-31 Vict., c. 3), and Imperial Order in Council, May 22, 1867.	412,582
Quebec ²	July 1, 1867		594,860
Nova Scotia.....	July 1, 1867		21,425
New Brunswick.....	July 1, 1867		28,354
Manitoba ³	July 15, 1870	Manitoba Act, 1870 (33 Vict., c. 3) and Imperial Order in Council, June 23, 1870.....	251,000
British Columbia.....	July 20, 1871	Imperial Order in Council, May 16, 1871.....	366,255
Prince Edward Island.....	July 1, 1873	Imperial Order in Council, June 26, 1873.....	2,184
Saskatchewan ⁴	Sept. 1, 1905	Saskatchewan Act, 1905 (4-5 Edw. VII, c. 42).....	251,700
Alberta ⁴	Sept. 1, 1905	Alberta Act, 1905 (4-5 Edw. VII, c. 3).....	255,285
Newfoundland.....	Mar. 31, 1949	The British North America Act, 1949 (12-13 Geo. VI, c. 22).....	156,185
Northwest Territories ⁵	July 15, 1870	Act of Imperial Parliament—Rupert's Land Act, 1868 (31-32 Vict., c. 105), and Imperial Order in Council, June 23, 1870.....	1,304,903
Mackenzie ⁶	Jan. 1, 1920	Order in Council, Mar. 16, 1918.....	587,490
Keewatin ⁶	Jan. 1, 1920		288,160
Franklin ⁶	Jan. 1, 1920		549,253
Yukon Territory ⁷	June 13, 1898	Yukon Territory Act, 1898 (61 Vict., c. 6).....	207,076
Canada.....			3,851,509

¹ The area of Ontario was extended by the Ontario Boundaries Extension Act, 1912 (2 Geo. V, c. 40).

² Extended by Quebec Boundaries Extension Act, 1912 (2 Geo. V, c. 45) and diminished Mar. 1, 1927 in consequence of the Award of the Judicial Committee of the British Privy Council whereby approximately 112,000 sq. miles of territory (formerly considered as part of Quebec) was assigned to Newfoundland.

³ Extended by the Extension of Boundaries Act of Manitoba, 1881, and the Manitoba Boundaries Extension Act, 1912 (2 Geo. V, c. 32).

⁴ Saskatchewan and Alberta created as provinces in 1905 from the area formerly comprised in the provisional districts of Assiniboia, Athabasca, Alberta and Saskatchewan established May 17, 1882, by minute of Canadian Privy Council concurred in by Dominion Parliament and Order in Council, Oct. 2, 1895.

⁵ By an Imperial Order in Council passed on June 23, 1870, pursuant to the Rupert's Land Act, 1868 (31-32 Vict., c. 105) the former territories of the Hudson's Bay Company known as Rupert's Land and the North-Western Territory were transferred to Canada effective July 15, 1870. These territories were designated as the North-West Territories by the Act of 32-33 Vict., c. 3 and as the Northwest Territories by R.S.C. 1906, c. 62. By Imperial Order in Council of July 31, 1880 (effective Sept. 1, 1880) all British territories and possessions in North America not already included within Canada and all islands adjacent thereto (with the exception of the Colony of Newfoundland and its dependencies) were annexed to Canada and these additional territories were formally included in the North-West Territories by 4-5 Edw. VII, c. 27. The Province of Manitoba was formed out of a portion of the territories by the Manitoba Act, 1870 (33 Vict., c. 3) and a further portion was added to Manitoba in 1881 by 44 Vict., c. 14. The Provinces of Alberta and Saskatchewan were formed out of portions of the territories in 1905 and in 1912 other portions were added to Manitoba, Ontario and Quebec.

⁶ By 39 Vict., c. 21, a separate district to be known as the District of Keewatin was established and provision was made for the local government thereof. The Act was expressed to come into force by proclamation. It provided that portions of the District might be re-annexed to the North-West Territories by proclamation; in 1886 a portion of the District of Keewatin was re-annexed and in 1905 the entire Keewatin District was re-annexed. The Act of 39 Vict. was never proclaimed. By Order in Council of May 8, 1882 the provisional districts of Assiniboia, Saskatchewan, Alberta and Athabasca were created for the convenience of settlers and for postal purposes. By Order in Council of Oct. 2, 1895, the further provisional districts of Ungava, Franklin, Mackenzie and Yukon were created. The boundaries of these provisional districts were re-defined by Order in Council of Dec. 18, 1897. Subsequently the Yukon Territory was formed, the Provinces of Alberta and Saskatchewan were created and other portions of the territories were annexed to Quebec, Ontario and Manitoba. By Order in Council, dated Mar. 16, 1918 (effective Jan. 1, 1920) the remaining portions of the Northwest Territories were divided into three provisional districts known as Mackenzie, Keewatin and Franklin.

⁷ The provisional district of Yukon established in 1895 was created a judicial district of the North-West Territories by proclamation issued pursuant to Sect. 51 of the North-West Territories Act (R.S.C. 1886, c. 50) on Aug. 16, 1897 and by the Yukon Territory Act (61 Vict., c. 6) was declared to be a separate Territory.

PART II.—MACHINERY OF GOVERNMENT

Section 1.—The Federal Government

Subsection 1.—The Executive

The Crown.—The British North America Act provides that “the Executive Government and authority of and over Canada is . . . vested in the Queen”. The functions of the Crown, which are substantially the same as those of the Queen in relation to the Government of the United Kingdom, are discharged in Canada by the Governor General in accordance with established principles of responsible government. The practical executive functions of government are exercised by the Cabinet.

The Queen.—The personal participation of the Queen in the functions of the Crown in Canada has been limited to such occasions as the granting of honours and awards, approval of changes in the Table of Precedence, institution of new military awards, or the periodic appointment of a Governor General. On the occasion of a royal visit, the Queen may participate in those ceremonies which otherwise are carried out in her name, such as the opening and dissolution of Parliament, the assent to Bills, and the granting of a general amnesty.

Apart from her constitutional position in relation to the various governments of the Commonwealth countries the Queen is Head of the Commonwealth and symbolizes the association of the member countries. Until 1953 the title of the Queen was the same throughout the Commonwealth. Constitutional developments put the title somewhat out of accord with the facts of the position and in December 1952 it was decided by the Prime Ministers of the Commonwealth countries meeting at London, England, that new forms of title for each country should be devised. The title for Canada was approved by Parliament and established by a Royal Proclamation on May 29, 1953. The title of the Queen, so far as Canada is concerned, now is:—

“Elizabeth the Second, by the Grace of God of the United Kingdom, Canada and Her other Realms and Territories Queen, Head of the Commonwealth, Defender of the Faith”.

2.—Sovereigns of Canada since Confederation, 1867

Name	Dynasty	Year of Birth	Date of Accession
Victoria.....	House of Hanover.....	1819	June 20, 1837
Edward VII.....	House of Saxe-Coburg and Gotha.....	1841	Jan. 22, 1901
George V.....	House of Windsor.....	1865	May 6, 1910
Edward VIII.....	House of Windsor.....	1894	Jan. 20, 1936
George VI.....	House of Windsor.....	1895	Dec. 11, 1936
Elizabeth II.....	House of Windsor.....	1926	Feb. 6, 1952

The Governor General.—The Governor General, appointed by the Queen as her personal representative on the advice of the Prime Minister of Canada, traditionally serves for a term of five years. He exercises the executive authority of the Queen in relation to the Government of Canada under Letters Patent issued under the Great Seal of Canada (revised and re-issued, effective Oct. 1, 1947) and the provisions of the British North America Acts 1867 to 1952. Acting under the recommendations of his responsible Ministers, in the Queen's name, he summons, prorogues and dissolves Parliament, assents to Bills, and exercises other executive functions.

The Governor General's annual salary and allowances provided by the Parliament of Canada are \$48,666 and \$100,000 respectively. In addition other expenses of office are provided for, including the salary of the Governor General's secretary.

The present Governor General is styled His Excellency the Right Honourable Vincent Massey, C.H. He is the first Canadian to hold this high office, and has received two extensions to his five-year term of office.

3.—Governors General of Canada since Confederation, 1867

Name	Date of Appointment	Date of Assumption of Office
VISCOUNT MONCK, G.C.M.G.....	June 1, 1867	July 1, 1867
LORD LISGAR, G.C.M.G.....	Dec. 29, 1868	Feb. 2, 1869
THE EARL OF DUFFERIN, K.P., K.C.B., G.C.M.G.....	May 22, 1872	June 25, 1872
THE MARQUIS OF LORNE, K.T., G.C.M.G.....	Oct. 5, 1878	Nov. 25, 1878
THE MARQUIS OF LANSDOWNE, G.C.M.G.....	Aug. 18, 1883	Oct. 23, 1883
LORD STANLEY OF PRESTON, G.C.B.....	May 1, 1888	June 11, 1888
THE EARL OF ABERDEEN, K.T., G.C.M.G.....	May 22, 1893	Sept. 18, 1893
THE EARL OF MINTO, G.C.M.G.....	July 30, 1898	Nov. 12, 1898
EARL GREY, G.C.M.G.....	Sept. 26, 1904	Dec. 10, 1904
FIELD MARSHAL H. R. H. THE DUKE OF CONNAUGHT, K.G.....	Mar. 21, 1911	Oct. 13, 1911
THE DUKE OF DEVONSHIRE, K.G., G.C.M.G., G.C.V.O.....	Aug. 19, 1916	Nov. 11, 1916
GENERAL THE LORD BYNG OF VIMY, G.C.B., G.C.M.G., M.V.O.....	Aug. 2, 1921	Aug. 11, 1921
VISCOUNT WILLINGDON OF RATTON, G.C.S.I., G.C.I.E., G.B.E.....	Aug. 5, 1926	Oct. 2, 1926
THE EARL OF BESSBOROUGH, G.C.M.G.....	Feb. 9, 1931	Apr. 4, 1931
LORD TWEEDSMUIR OF ELSFIELD, G.C.M.G., G.C.V.O., C.H.....	Aug. 10, 1935	Nov. 2, 1935
MAJOR-GENERAL THE EARL OF ATHLONE, K.G., P.C., G.C.B., G.C.M.G., G.C.V.O., D.S.O.....	Apr. 3, 1940	June 21, 1940
FIELD MARSHAL VISCOUNT ALEXANDER OF TUNIS, K.G., G.C.B., G.C.M.G., C.S.I., D.S.O., M.C., A.D.C.....	Aug. 1, 1945	Apr. 13, 1946
THE RIGHT HONOURABLE VINCENT MASSEY, C.H.....	Jan. 24, 1952	Feb. 28, 1952

The Cabinet.—The Cabinet is a committee of Ministers chosen by the Prime Minister generally from Members of Parliament. By convention, all members of the Cabinet must either have seats in Parliament or secure seats within a short time and, again by convention, all Ministers in charge of departments of government must be members of the House of Commons. Ministers without Portfolio can be members of either House.

The Cabinet, under the leadership of the Prime Minister, directs the business of the Commons, initiates nearly all public Bills placed before Parliament, and has complete responsibility for the initiation of taxes and the recommendation of expenditures. Following established precedent or convention, it is always responsible to the Commons. When the Cabinet (the Government) suffers defeat on a Government Bill or a vote of censure or on a motion of want of confidence in the Commons, the existing Government or Cabinet must either resign or request a dissolution from the Governor General. If it resigns, the Governor General may call on the Leader of the Opposition in the Commons to form a new Government. Alternatively, if a Government that has been defeated in the House is granted a dissolution and is defeated in the ensuing general election then, should no clear majority be indicated, the Government may decide (1) to remain in office and seek a vote of confidence in the House when it meets or (2) to resign immediately with the consequent result that the Governor General will ask the leader of the party with the highest number of members returned to form a new Government. These alternatives may also eventuate as a result of a general election subsequent to the normal dissolution of Parliament at or near the close of its statutory life.

The primary responsibility of the Governor General in either of the above circumstances is to provide the nation with a Cabinet or Ministry capable of conducting Her Majesty's Government with the support of the House of Commons.

Although appointed by the Governor General, Cabinet members are selected by the Prime Minister from among his party colleagues in such manner as to ensure, as far as possible, representation of the several geographical and political regions of the country and its principal ethnic, religious and social interests. Each Cabinet Minister generally assumes charge of one of the departments of government, although a Minister may hold more than one portfolio at the same time or he may hold one or more portfolios and one or more acting portfolios, or a Minister without Portfolio may hold one or more acting portfolios. In his acting capacity, the Minister exercises the same authority as if he were the Minister of the department.

4.—Prime Ministers since Confederation, 1867

Ministry	Prime Minister	Length of Administration
1	Rt. Hon. Sir JOHN ALEXANDER MACDONALD.....	July 1, 1867 - Nov. 5, 1873
2	Hon. ALEXANDER MACKENZIE.....	Nov. 7, 1873 - Oct. 16, 1878
3	Rt. Hon. Sir JOHN ALEXANDER MACDONALD.....	Oct. 17, 1878 - June 6, 1891
4	Hon. Sir JOHN JOSEPH CALDWELL ABBOTT.....	June 16, 1891 - Nov. 24, 1892
5	Rt. Hon. Sir JOHN SPARROW DAVID THOMPSON.....	Dec. 5, 1892 - Dec. 12, 1894
6	Hon. Sir MACKENZIE BOWELL.....	Dec. 21, 1894 - Apr. 27, 1896
7	Hon. Sir CHARLES TUPPER.....	May 1, 1896 - July 8, 1896
8	Rt. Hon. Sir WILFRID LAURIER.....	July 11, 1896 - Oct. 6, 1911
9	Rt. Hon. Sir ROBERT LAIRD BORDEN.....	Oct. 10, 1911 - Oct. 12, 1917 (Conservative Administration)
10	Rt. Hon. Sir ROBERT LAIRD BORDEN.....	Oct. 12, 1917 - July 10, 1920 (Unionist Administration)
11	Rt. Hon. ARTHUR MEIGHEN.....	July 10, 1920 - Dec. 29, 1921 (Unionist—"National Liberal and Conservative Party")
12	Rt. Hon. WILLIAM LYON MACKENZIE KING.....	Dec. 29, 1921 - June 28, 1926
13	Rt. Hon. ARTHUR MEIGHEN.....	June 29, 1926 - Sept. 25, 1926
14	Rt. Hon. WILLIAM LYON MACKENZIE KING.....	Sept. 25, 1926 - Aug. 6, 1930
15	Rt. Hon. RICHARD BEDFORD BENNETT.....	Aug. 7, 1930 - Oct. 23, 1935
16	Rt. Hon. WILLIAM LYON MACKENZIE KING.....	Oct. 23, 1935 - Nov. 15, 1948
17	Rt. Hon. LOUIS STEPHEN ST. LAURENT.....	Nov. 15, 1948 - June 21, 1957
18	Rt. Hon. JOHN GEORGE DIEFENBAKER.....	June 21, 1957 - ...

5.—Members of the Eighteenth Ministry as at Sept. 1, 1958¹

(According to precedence of Ministers)

NOTE.—A complete list of the members of Federal Ministries from Confederation to 1913 appears in the 1912 Year Book, pp. 422-429. Later Ministries will be found in subsequent editions.

Office	Occupant	Date of First Appointment ²	Date of Appointment to Present Portfolio
Prime Minister.....	Rt. Hon. JOHN GEORGE DIEFENBAKER.....	June 21, 1957	June 21, 1957
Minister of Public Works.....	Hon. HOWARD CHARLES GREEN.....	June 21, 1957	June 21, 1957
Minister of Finance and Receiver General.....	Hon. DONALD METHUEN FLEMING.....	June 21, 1957	June 21, 1957
Minister of Veterans Affairs.....	Hon. ALFRED JOHNSON BROOKS.....	June 21, 1957	June 21, 1957
Minister of Transport.....	Hon. GEORGE HEES.....	June 21, 1957	June 21, 1957
Solicitor General.....	Hon. LEON BALCER.....	June 21, 1957	June 21, 1957
Minister of National Defence.....	Hon. GEORGE RANDOLPH PEARKES.....	June 21, 1957	June 21, 1957
Minister of Trade and Commerce.....	Hon. GORDON CHURCHILL.....	June 21, 1957	June 21, 1957
Minister of Justice and Attorney General.....	Hon. EDMUND DAVIE FULTON.....	June 21, 1957	June 21, 1957
Minister of National Revenue.....	Hon. GEORGE CLYDE NOWLAN.....	June 21, 1957	June 21, 1957
Minister of Agriculture.....	Hon. DOUGLAS SCOTT HARKNESS.....	June 21, 1957	Aug. 7, 1957
Minister of Citizenship and Immigration.....	Hon. ELLEN LOUKS FAIRCLOUGH.....	June 21, 1957	May 12, 1958
Minister of Fisheries.....	Hon. J. ANGUS MACLEAN.....	June 21, 1957	June 21, 1957
Minister of Labour.....	Hon. MICHAEL STARR.....	June 21, 1957	June 21, 1957
Postmaster General.....	Hon. WILLIAM McLEAN HAMILTON.....	June 21, 1957	June 21, 1957
Minister without Portfolio.....	Hon. JAMES MacKERRAS MACDONNELL.....	June 21, 1957	June 21, 1957
Minister without Portfolio.....	Hon. WILLIAM J. BROWNE.....	June 21, 1957	June 21, 1957
Minister of Mines and Technical Surveys.....	Hon. PAUL COMTOIS.....	Aug. 7, 1957	Aug. 7, 1957
Minister of National Health and Welfare.....	Hon. JAY WALDO MONTEITH.....	Aug. 22, 1957	Aug. 22, 1957
Minister of Northern Affairs and National Resources.....	Hon. FRANCIS ALVIN GEORGE HAMILTON.....	Aug. 22, 1957	Aug. 22, 1957
Secretary of State for External Affairs.....	Hon. SIDNEY EARLE SMITH.....	Sept. 13, 1957	Sept. 13, 1957
Minister of Defence Production.....	Hon. RAYMOND O'HURLEY.....	May 12, 1958	May 12, 1958
Secretary of State.....	Hon. HENRI COURTEMANCHE.....	May 12, 1958	May 12, 1958

¹ Any changes occurring between Sept. 1, 1958, and the date of going to press will be carried in an Appendix to this volume.

² Appointee was not necessarily sworn in on date given.

The Privy Council.—The Queen's Privy Council for Canada is composed of eighty to ninety members who are sworn of the Council by the Governor General on the advice of the Prime Minister and who retain membership for life. The Council consists chiefly of present and former Ministers of the Crown. It seldom meets as a body and its constitutional responsibilities as adviser to the Crown in respect to Canada are performed exclusively by a committee thereof consisting of the Ministers who constitute the Cabinet of the day and are also members of the Queen's Privy Council for Canada.

6.—Members of the Queen's Privy Council for Canada According to Seniority Therein as at Sept. 1, 1958

NOTE.—In this list the prefix "The Rt. Hon." indicates membership in the United Kingdom Privy Council. Clerk of the Privy Council and Secretary to the Cabinet, R. B. BRYCE; Assistant Clerk of the Privy Council, A. M. HILL.

Member ¹	Date When Sworn In	Member ¹	Date When Sworn In
The Rt. Hon. ARTHUR MEIGHEN.....	Oct. 2, 1915	The Hon. ROBERT HENRY WINTERS...	Nov. 15, 1948
The Hon. ESIOFF LEON PATENAUDE.....	Oct. 6, 1915	The Hon. FREDERICK GORDON	
The Hon. ALBERT SEVIGNY.....	Jan. 8, 1917	BRADLEY.....	Apr. 1, 1949
The Hon. THOMAS ALEXANDER CRESSER	Oct. 12, 1917	The Hon. CHARLES JOST BURCHELL.....	Apr. 1, 1949
The Hon. HENRY HERBERT STEVENS.....	Sept. 21, 1921	The Hon. GASPARD FAUTEUX.....	May 16, 1949
The Hon. EDWARD JAMES McMURRAY.....	Nov. 14, 1923	The Hon. HUGUES LAPORTE.....	Aug. 25, 1949
The Rt. Hon. CHARLES VINCENT		The Hon. GABRIEL EDOUARD RINFRET.....	Aug. 25, 1949
MASSEY.....	Sept. 16, 1925	The Hon. WALTER EDWARD HARRIS.....	Jan. 18, 1950
The Hon. CHARLES AVERY DUNNING.....	Mar. 1, 1926	The Hon. GEORGE PRUDHAM.....	Dec. 13, 1950
The Hon. WILLIAM DAUM EULER.....	Sept. 25, 1926	The Hon. GEORGE BLACK.....	Aug. 3, 1951
H.R.H. The DUKE OF WINDSOR.....	Aug. 2, 1927	EARL ALEXANDER OF TUNIS.....	Jan. 29, 1952
The Hon. ARTHUR CHARLES HARDY.....	July 31, 1930	The Hon. JAMES SINCLAIR.....	Oct. 15, 1952
The Hon. DONALD MATHESON		The Hon. RALPH OSBORNE CAMPNEY.....	Oct. 15, 1952
SUTHERLAND.....	Aug. 7, 1930	The Hon. WILLIAM ROSS MACDONALD.....	May 12, 1953
The Hon. THOMAS GEROW MURPHY.....	Aug. 7, 1930	The Hon. GEORGE ALEXANDER DREW	May 12, 1953
The Hon. WILLIAM DUNCAN HERRIDGE	June 17, 1931	The Hon. JOHN WHITNEY PICKERSGILL.....	June 12, 1953
The Hon. SAMUEL GOSSEL.....	Aug. 14, 1935	The Rt. Hon. THIBAUDEAU RINFRET.....	Sept. 16, 1953
The Hon. LUCIEN HENRI GENDRON.....	Aug. 30, 1935	The Hon. JEAN LESAGE.....	Sept. 17, 1953
The Hon. WILLIAM EARL ROWE.....	Aug. 30, 1935	The Hon. PATRICK KERWIN.....	July 1, 1954
The Hon. ONESIME GAGNON.....	Aug. 30, 1935	The Hon. GEORGE CARLYLE MARLER.....	July 1, 1954
The Hon. CHARLES GAVAN POWER.....	Oct. 23, 1935	The Hon. ROCH PINARD.....	July 1, 1954
The Rt. Hon. JAMES LORIMER ILSLEY.....	Oct. 23, 1935	The Hon. HERBERT J. SYMINGTON.....	Nov. 26, 1956
The Hon. JOSEPH ENOIL MICHAUD.....	Oct. 23, 1935	The Hon. LOUIS RENE BEAUDOIN.....	Apr. 15, 1957
The Rt. Hon. CLARENCE DECATUR		The Hon. PAUL THEODORE HELLYER.....	Apr. 26, 1957
HOWE.....	Oct. 23, 1935	The Rt. Hon. JOHN GEORGE	
The Rt. Hon. JAMES GARFIELD		DIEFFENBAKER ²	June 21, 1957
GARDINER.....	Nov. 4, 1935	The Hon. HOWARD CHARLES GREEN ³	June 21, 1957
The Hon. COLIN WILLIAM GEORGE		The Hon. DONALD METEVEN	
GIBSON.....	July 8, 1940	FLEMING ³	June 21, 1957
The Hon. JOSEPH THORARINN THORSON	June 11, 1941	The Hon. ALFRED JOHNSON BROOKS ³	June 21, 1957
The Hon. WILLIAM FERDINAND		The Hon. GEORGE HEES ³	June 21, 1957
ALPHONSE TURGEON.....	Oct. 8, 1941	The Hon. LEON BALCER ³	June 21, 1957
The Rt. Hon. LOUIS STEPHEN ST.		The Hon. GEORGE RANDOLPH PEARKES ³	June 21, 1957
LAURENT.....	Dec. 10, 1941	The Hon. GORDON CHURCHILL ³	June 21, 1957
The Rt. Hon. Sir WINSTON LEONARD		The Hon. EDMUND DAVIE FULTON ³	June 21, 1957
SPENCER CHURCHILL.....	Dec. 29, 1941	The Hon. GEORGE CLYDE NOWLAN ³	June 21, 1957
The Hon. ALPHONSE FOURNIER.....	Oct. 7, 1942	The Hon. DOUGLAS SCOTT HARKNESS ³	June 21, 1957
The Hon. ERNEST BERTRAND.....	Oct. 7, 1942	The Hon. ELLEN LOUIS FAIRCLOUGH ³	June 21, 1957
The Hon. BROOKE CLAXTON.....	Oct. 13, 1944	The Hon. J. ANGUS McLEAN ³	June 21, 1957
The Hon. ANDREW GEORGE LATTA		The Hon. MICHAEL STARR ³	June 21, 1957
McNAUGHTON.....	Nov. 2, 1944	The Hon. WILLIAM McLEAN HAMILTON ³	June 21, 1957
The Hon. JOSEPH ARTHUR JEAN.....	Apr. 18, 1945	The Hon. JAMES MacKERRAS	
The Hon. LIONEL CHEVRIER.....	Apr. 18, 1945	MACDONNELL ³	June 21, 1957
The Hon. PAUL JOSEPH JAMES MARTIN	Apr. 18, 1945	The Hon. WILLIAM J. BROWNE ³	June 21, 1957
The Hon. DOUGLAS CHARLES ABBOTT.....	Apr. 18, 1945	The Hon. PAUL COMTOIS ³	Aug. 7, 1957
The Hon. JAMES JOSEPH McCANN.....	Apr. 18, 1945	The Hon. JAY WALDO MONTEITH ³	Aug. 22, 1957
The Hon. DAVID LAURENCE MACLAREN	Apr. 18, 1945	The Hon. FRANCIS ALVIN GEORGE	
The Hon. THOMAS VIEU.....	July 19, 1945	HAMILTON ³	Aug. 22, 1957
The Hon. WISHART McLEA ROBERTSON	Sept. 4, 1945	The Hon. SIDNEY EARLE SMITH ³	Sept. 13, 1957
The Hon. MILTON FOWLER GREGG.....	Sept. 2, 1947	The Hon. JOHN THOMAS HAIG.....	Oct. 9, 1957
The Hon. ROBERT WELLINGTON		H.R.H. The PRINCE PHILIP, Duke of	
MAYHEW.....	June 11, 1948	Edinburgh.....	Oct. 14, 1957
The Hon. LESTER BOWLES PEARSON.....	Sept. 10, 1948	The Hon. RAYMOND O'HURLEY ³	May 12, 1958
The Hon. STUART SINCLAIR GARSON.....	Nov. 15, 1948	The Hon. HENRI COURTEMACHE ³	May 12, 1958

¹ Members of Her Majesty's Privy Council for Canada take rank *inter se* according to the dates of their being sworn in.

² Ranks as the Prime Minister of Canada.

³ Ranks as a Member of the Cabinet.

7.—Duration and Sessions of Parliaments 1945-58

NOTE.—Similar information for the 1st to the 12th Parliaments, covering the period from Confederation to 1917, is given in the 1940 Year Book, p. 46, that for the 13th to 17th Parliaments in the 1945 edition, p. 53, and for the 18th and 19th Parliaments in the 1957-58 edition, p. 46.

Order of Parliament	Session	Date of Opening	Date of Prorogation	Days of Session	Sitting Days of House of Commons	Date of Election, Writs Returnable, Dissolution, and Length of Parliament ^{1,2}
20th Parliament.....	1st	Sept. 6, 1945	Dec. 18, 1945	104	76	June 11, 1945 ³ Aug. 9, 1945 ⁴ Apr. 30, 1949 ⁵ 3 y., 8 m., 22 d.
	2nd	Mar. 14, 1946	Aug. 31, 1946	171	118	
	3rd	Jan. 30, 1947	July 17, 1947	169	115	
	4th	Dec. 5, 1947	June 30, 1948	209	119	
	5th	Jan. 26, 1949	Apr. 30, 1949	95	59	
21st Parliament.....	1st	Sept. 15, 1949	Dec. 10, 1949	87	64	June 27, 1949 ³ Aug. 25, 1949 ⁴ June 13, 1953 ⁵ 3 y., 9 m., 20 d.
	2nd	Feb. 16, 1950	June 30, 1950	135	90	
	3rd	Aug. 29, 1950	Jan. 29, 1951	154	17	
	4th	Jan. 30, 1951	Oct. 9, 1951	253	105	
	5th	Oct. 9, 1951	Dec. 29, 1951	82	56	
	6th	Feb. 28, 1952	Nov. 20, 1952	267	87	
	7th	Nov. 20, 1952	May 14, 1953	176	108	
22nd Parliament.....	1st	Nov. 12, 1953	June 26, 1954	227	139	Aug. 10, 1953 ³ Oct. 8, 1953 ⁴ Apr. 12, 1957 3 y., 6 m., 5 d.
	2nd	Jan. 7, 1955	July 28, 1955	203	140	
	3rd	Jan. 10, 1956	Aug. 14, 1956	218	152	
	4th	Nov. 26, 1956	Jan. 8, 1957	44 ⁶	5	
	5th	Jan. 8, 1957	Apr. 12, 1957	95	71	
23rd Parliament.....	1st	Oct. 14, 1957	Feb. 1, 1958	111	78	June 10, 1957 ³ Aug. 8, 1957 ⁴ Feb. 1, 1958 ⁵ 5 m., 25 d.
24th Parliament.....	1st	May 12, 1958	Sept. 6, 1958	117	93	Mar. 31, 1958 ³ Apr. 30, 1958 ⁴
	2nd	Jan. 15, 1959	...	...	...	

¹ The ordinary legal limit of duration for each Parliament is five years. ² Duration of Parliament in years, months and days. The life of a Parliament is counted from the date of return of election writs to the date of dissolution, both days inclusive (B.N.A. Act, Sect. 50). ³ Date of general election. ⁴ Writs returnable. ⁵ Dissolution of Parliament. ⁶ Includes long adjournment from Nov. 29, 1956 to Jan. 8, 1957.

Subsection 2.—The Legislature

The federal legislative authority is vested in the Parliament of Canada consisting of the Queen, an Upper House styled the Senate, and the House of Commons. Bills may originate in either the Senate or the House subject to the provisions of Sect. 53 of the British North America Act, 1867, which provides that Bills for the appropriation of any part of the public revenue or the imposition of any tax or impost shall originate in the House of Commons. Bills must pass both Houses and receive Royal Assent before becoming law. In practice most public Bills originate in the House of Commons although there has been a marked increase recently in the introduction of public Bills in the Senate, at the instance of the Government, in order that Bills may be dealt with in the Senate while the Commons is engaged in other matters, such as the debate on the Speech from the Throne. Private Bills usually originate in the Senate. The Senate may delay, amend or even refuse to pass Bills sent to it from the Commons, but differences are usually settled without serious conflict. (See Chap. XXVII for current legislation.)

Under Sect. 91 of the British North America Acts, 1867-1952, the legislative authority of the Parliament of Canada extends to the following matters: the amendment of the Constitution of Canada (subject to certain exceptions); the public debt and property; the regulation of trade and commerce; unemployment insurance; the raising of money by any mode or system of taxation; the borrowing of money on the public credit; postal service; the Census and statistics; militia, military and naval service, and defence; the fixing of and providing for the salaries and allowances of civil and other officers of the Government of Canada; beacons, buoys, lighthouses and Sable Island; navigation and shipping; quarantine and the establishment and maintenance of marine hospitals; sea coast and

inland fisheries; ferries between a province and any British or foreign country or between two provinces; currency and coinage, banking, incorporation of banks and the issue of paper money; savings banks; weights and measures; bills of exchange and promissory notes; interest; legal tender; bankruptcy and insolvency; patents of invention and discovery; copyrights; Indians and lands reserved for the Indians; naturalization and aliens; marriage and divorce; the criminal law, except the constitution of courts of criminal jurisdiction, but including the procedure in criminal matters; the establishment, maintenance and management of penitentiaries; such classes of subjects as are expressly excepted in the enumeration of the classes of subjects by these Acts assigned exclusively to the legislatures of the provinces.

Under Sect. 95 the Parliament of Canada may make laws in relation to agriculture and immigration concurrently with provincial legislatures although federal legislation is paramount in the event of conflict. By the British North America Act, 1951 (14-15 Geo. VI, c. 32) it was declared that the Parliament of Canada might make laws in relation to old age pensions in Canada but no such law shall affect the operation of any provincial laws in relation to old age pensions.

The Senate.—From an original membership of 72 at Confederation the Senate, through the addition of new provinces and the general growth of population, now has 102 members, the latest change in representation having been made on the admission of Newfoundland to Confederation in 1949. The growth of representation in the Senate is traced in the 1940 Year Book, pp. 47-49, and is summarized by provinces in Table 8.

8.—Representation in the Senate since Confederation, 1867

Province	1867	1870	1871	1873	1882	1887	1892	1903	1905	1915-1948	1949-1958
Ontario.....	24	24	24	24	24	24	24	24	24	24	24
Quebec.....	24	24	24	24	24	24	24	24	24	24	24
Atlantic Provinces.....	24	24	24	24	24	24	24	24	24	24	30
Nova Scotia.....	12	12	12	10	10	10	10	10	10	10	10
New Brunswick.....	12	12	12	10	10	10	10	10	10	10	10
Prince Edward Island.....	...	...	...	4	4	4	4	4	4	4	4
Newfoundland.....	...	...	...	...	...	...	...	...	...	...	6
Western Provinces.....	...	2	5	5	6	8	9	11	15	24	24
Manitoba.....	...	2	2	2	3	3	4	4	4	6	6
British Columbia.....	...	...	3	3	3	3	3	3	3	6	6
Saskatchewan.....	...	...	...	...	...	2	2	4	4	6	6
Alberta.....	...	...	...	...	...	...	...	...	...	6	6
Totals.....	72	74	77	77	78	80	81	83	87	96	102

Senators are appointed for life by the Governor General by instrument under the Great Seal of Canada on the recommendation of the Prime Minister. The actual power of appointing Senators resides by constitutional usage in the Prime Minister whose advice the Governor General accepts in this regard. In each of the four main divisions of Canada, except Quebec, Senators represent the whole of the province for which they are appointed; in Quebec one Senator is appointed for each of the 24 electoral divisions of what was formerly Lower Canada. The deliberations of the Senate are presided over by a Speaker appointed by the Governor General in Council (in effect by the Government) and government business in the Senate is sponsored by the Government Leader in the Senate.

The Senate is not a competitor of the House of Commons in the field of legislation, but, in the main, acts as a second chamber giving further scrutiny to legislation initiated in the House of Commons. Under the constitution, Bills for appropriating any part of the public revenue or for imposing a tax or impost must originate in the Commons but in every other respect, since both Houses must concur in every piece of legislation, the Senate has an equal voice with the House of Commons.

9.—Members of the Senate by Province as at Sept. 1, 1958¹

Speaker.....	The Hon. MARK ROBERT DROUIN
Leader of the Government.....	The Hon. WALTER M. ASSETINE
Leader of the Opposition.....	The Hon. WILLIAM ROSS MACDONALD
Clerk of the Senate and Clerk of the Parliaments...	JOHN FORBES MACNEILL

(Ranked according to seniority, by province. All Senators are entitled to the designation "The Honourable".)

Province and Name of Senator	P.O. Address	Province and Name of Senator	P.O. Address
Newfoundland— (5 Senators—1 vacancy)		Ontario— (24 Senators)	
BAIRD, ALEXANDER BOYD.....	St. John's	HARDY, ARTHUR CHARLES.....	Brockville
PETTEN, RAY.....	St. John's	WILSON, CAIRINE REAY.....	Ottawa
PRATT, CALBERT C.....	St. John's	LAMBERT, NORMAN PLATT.....	Ottawa
BASHA, MICHAEL G.....	Curling	HAYDEN, SALTER ADRIAN.....	Toronto
BRADEY, FREDERICK GORDON.....	Bonavista	PATTERSON, NORMAN MCLEOD.....	Fort William
Prince Edward Island— (4 Senators)		EULER, WILLIAM DAUM.....	Kitchener
GRANT, THOMAS VINCENT.....	Montague	DAVES, WILLIAM RUPERT.....	Toronto
BARBOUR, GEORGE H.....	Charlottetown	CAMPBELL, GORDON PETER.....	Toronto
INMAN, F. ELSIE.....	Montague	TAYLOR, WILLIAM HORACE.....	Brantford
MACDONALD, JOHN J.....	Charlottetown	BISHOP, CHARLES LAWRENCE.....	Ottawa
Nova Scotia— (8 Senators—2 vacancies)		ROEBUCK, ARTHUR WENTWORTH.....	Toronto
QUINN, FELIX PATRICK.....	Bedford	FARQUHAR, THOMAS.....	Little Current
ROBERTSON, WISHART MCLEA.....	Truro	FRASER, WILLIAM ALEXANDER.....	Trenton
KINLEY, JOHN JAMES.....	Lunenburg	GOLDING, WILLIAM HENRY.....	Seaforth
MC DONALD, JOHN ALEXANDER.....	Halifax	WOODROW, ALLAN L.....	Toronto
COMEAU, JOSEPH WILLIE.....	Comeauville	MACDONALD, WILLIAM ROSS.....	Brantford
ISNOR, GORDON B.....	Halifax	BRADETTE, JOSEPH ARTHUR.....	Cochrane
SMITH, DONALD.....	Liverpool	CONNOLLY, JOHN J.....	Ottawa
CONNOLLY, HAROLD.....	Halifax	CHOLL, DAVID A.....	Toronto
New Brunswick— (9 Senators—1 vacancy)		LEONARD, T. D'ARCY.....	Toronto
VENIOT, CLARENCE JOSEPH.....	Bathurst	WHITE, GEORGE STANLEY.....	Madoc
MCLEAN, ALEXANDER NEIL.....	Saint John	SULLIVAN, JOSEPH A.....	Toronto
BURCHILL, GEORGE PERCIVAL.....	South Nelson	BRUNT, WILLIAM R.....	Hanover
FERGUSON, MURIEL MCQUEEN.....	Fredericton	CHOUQUETTE, LIONEL.....	Ottawa
LÉGER, AUREL D.....	Grand Digue	Manitoba— (6 Senators)	
MCGERARD, FRED A.....	Fredericton	HAIG, JOHN THOMAS.....	Winnipeg
Quebec— (22 Senators—2 vacancies)		BEAUBIEN, ARTHUR LUCIEN.....	St. Jean Baptiste
RAYMOND, DONAT.....	Montreal	CHERRAR, THOMAS ALEXANDER.....	Winnipeg
HUGHESSEY, ADRIAN KNATCHBULL.....	Montreal	HOWDEN, JOHN POWER.....	Norwood Grove
HOWARD, CHARLES BENJAMIN.....	Sherbrooke	WALL, WILLIAM M.....	Winnipeg
GOUIN, LÉON MERCIER.....	Montreal	THORVALDSON, GUNNAR S.....	Winnipeg
VIEN, THOMAS.....	Outremont	Saskatchewan— (5 Senators—1 vacancy)	
BOUCHARD, TÉLÉSPHORE DAMIEN.....	St. Hyacinthe	HORNER, RALPH BYRON.....	Blaine Lake
VAILLANCOURT, CYRILLE.....	Lévis	ASSETINE, WALTER MORLEY.....	Rosetown
NICOL, JACOB.....	Sherbrooke	WOOD, THOMAS H.....	Regina
DEPUIS, VINCENT.....	Montreal	BOUCHER, WILLIAM ALBERT.....	Prince Albert
DESSUREAULT, JEAN MARIE.....	Quebec	PEARSON, ARTHUR M.....	Lumsden
BOUFFARD, PAUL HENRI.....	Quebec	Alberta— (5 Senators—1 vacancy)	
JODOIN, MARIANA BEUCHAMP.....	Montreal	BLAIS, ARISTIDE.....	Edmonton
TREMBLAY, LEONARD D. SWEZEY.....	St. Malachie	GERSHAW, FRED WILLIAM.....	Medicine Hat
FOURNIER, SARTE.....	Montreal	STAMBAUGH, J. WESLEY.....	Bruce
MOLSON, H. de M.....	Montreal	CAMERON, DONALD.....	Edmonton
POWER, C. G.....	Quebec	GLADSTONE, JAMES.....	Cardston
POULIOT, JEAN FRANÇOIS.....	Rivière du Loup	British Columbia— (6 Senators)	
BOIS, HENRI CHARLES.....	St. Bruno, Chambly Co.	FARRIS, JOHN WALLACE DE BEQUE...	Vancouver
LeFransçois, J. EUGÈNE.....		TURGEON, JAMES GRAY.....	Vancouver
DROUIN, MARK ROBERT.....	Quebec	MCKEEN, STANLEY STEWART.....	Vancouver
METHOT, LÉON.....	Trois Rivières	REID, THOMAS.....	New Westminster
MONETTE, GUSTAVE.....	Montreal	HODGES, NANCY.....	Victoria
		SMITH, SIDNEY JOHN.....	Kamloops

¹ Any changes occurring between Sept. 1, 1958, and the date of going to press will be carried in an Appendix to this volume.

The House of Commons.—The British North America Act, 1867, provided that in respect of representation in the House of Commons the Province of Quebec should have the fixed number of sixty-five members and that there should be assigned to each of the other provinces such a number of members as would bear the same proportion to the number of its population as the number sixty-five bears to the number of the population of Quebec. This Act also provided that on the completion of a census in 1871 and of each subsequent decennial census the representation of the several provinces should be re-adjusted from time to time provided the proportionate representation of the provinces as prescribed by the Act was not thereby disturbed.

In the session of 1946 the House of Commons adopted a resolution stating that the effect of the provisions of the British North America Act relating to representation had not been satisfactory in that proportionate representation of the provinces according to population had not been maintained and that a more equitable apportionment of members to the various provinces could be effected if readjustments were made on the basis of the population of all the provinces taken as a whole. The Act was amended accordingly in 1946 to provide a new rule to regulate representation in the House of Commons. Generally speaking, representation was fixed as follows:—

The membership assigned to each province shall be computed by dividing the total population of the provinces by two hundred and fifty-four and by dividing the population of each province by the quotient so obtained.

This rule, employed in the redistribution of representation made in 1947, was effective in the general election of 1949.

After the completion of the 1951 Census it was apparent that as a result of a wartime shift of population a substantial reduction in the representation of the Province of Saskatchewan would ensue under the rules then regulating representation. Accordingly, in an effort to eliminate sharp reductions in provincial representation from one census to another, the British North America Act was again amended to provide representation on the following basis:—

"Sect. 51.—(1) Subject as hereinafter provided, the number of members of the House of Commons shall be two hundred and sixty-three and the representation of the provinces therein shall forthwith upon the coming into force of this section and thereafter on the completion of each decennial census be readjusted by such authority, in such manner, and from such time as the Parliament of Canada from time to time provides, subject and according to the following rules:—

"1. There shall be assigned to each of the provinces a number of members computed by dividing the total population of the provinces by two hundred and sixty-one and by dividing the population of each province by the quotient so obtained, disregarding, except as hereinafter in this section provided, the remainder, if any, after the said process of division.

"2. If the total number of members assigned to all the provinces pursuant to rule one is less than two hundred and sixty-one, additional members shall be assigned to the provinces (one to a province) having remainders in the computation under rule one commencing with the province having the largest remainder and continuing with the other provinces in the order of the magnitude of their respective remainders until the total number of members assigned is two hundred and sixty-one.

"3. Notwithstanding anything in this section, if upon completion of a computation under rules one and two, the number of members to be assigned to a province is less than the number of senators representing the said province, rules one and two shall cease to apply in respect of the said province, and there shall be assigned to the said province a number of members equal to the said number of senators.

"4. In the event that rules one and two cease to apply in respect of a province then, for the purpose of computing the number of members to be assigned to the provinces in respect of which rules one and two continue to apply, the total population of the provinces shall be reduced by the number of the population of the province in respect of which rules one and two have ceased to apply and the number two hundred and sixty-one shall be reduced by the number of members assigned to such province pursuant to rule three.

"5. On any such readjustment the number of members for any province shall not be reduced by more than fifteen per cent below the representation to which such province was entitled under rules one to four of this subsection at the last preceding readjustment of the representation of that province, and there shall be no reduction in the representation of any province as a result of which that province would have a smaller number of members than any other province that according to the results of the then last decennial census did

not have a larger population; but for the purposes of any subsequent readjustment of representation under this section any increase in the number of members of the House of Commons resulting from the application of this rule shall not be included in the divisor mentioned in rules one to four of this subsection.

"6. Such readjustment shall not take effect until the termination of the then existing Parliament.

"(2) The Yukon Territory as constituted by chapter forty-one of the Statutes of Canada, 1901, shall be entitled to one member, and such other part of Canada not comprised within a province as may from time to time be defined by the Parliament of Canada shall be entitled to one member." (R.S.C. 1952, c. 304.)

The principal effect of these latest rules is that the representation of any province shall not be reduced by more than 15 p.c. at any one readjustment subject however to the qualification that the rule shall not work out in such manner that the representation of a province with a smaller population shall be greater than any province with a larger population.

Subsequently Parliament enacted a measure, "An Act to readjust the Representation in the House of Commons, 1952", effective in the general election of 1953, which provided that representation in the House of Commons shall be on the following basis:—

"Sect. 2.—Eighty-five members of the House of Commons shall be elected for the Province of Ontario, seventy-five for the Province of Quebec, twelve for the Province of Nova Scotia, ten for the Province of New Brunswick, fourteen for the Province of Manitoba, twenty-two for the Province of British Columbia, four for the Province of Prince Edward Island, seventeen for the Province of Saskatchewan, seventeen for the Province of Alberta, seven for the Province of Newfoundland, one for the Yukon Territory and one for Mackenzie district of the Northwest Territories, thus making a total of two hundred and sixty-five members." (R.S.C. 1952, c. 344.)

The number of representatives of each province elected at each of the 23 general elections since Confederation is given in Table 10.

10.—Representation in the House of Commons as at Federal General Elections 1867-1958

Province or Territory	1867	1872	1874 1878	1882	1887 1891	1896 1900	1904	1908 1911	1917 1921	1925 1926 1930	1935 1940 1945	1949	1953 1957 1958
Ontario.....	82	88	88	92	92	92	86	86	82	82	82	83	85
Quebec.....	65	65	65	65	65	65	65	65	65	65	65	73	75
Nova Scotia.....	19	21	21	21	21	20	18	18	16	14	12	13	12
New Brunswick.....	15	16	16	16	16	14	13	13	11	11	10	10	10
Manitoba.....	...	4	4	5	5	7	10	10	15	17	17	16	14
British Columbia.....	...	6	6	6	6	6	7	7	13	14	16	18	22
Prince Edward Island.....	...	...	6	6	6	5	4	4	4	4	4	4	4
Saskatchewan.....	...	...	...	...	4	4	10	10	16	21	21	20	17
Alberta.....	...	...	...	...	...	...	7	7	12	16	17	17	17
Yukon.....	...	...	...	...	...	...	1	1	1	1	1	1	1
Mackenzie River, N.W.T.	...	...	...	...	...	...	...	...	...	...	...	7	7
Newfoundland.....	...	...	...	...	...	...	...	...	...	...	...	...	...
Totals.....	181	200	206	211	215	213	214	221	235	245	245	262	265

Under their parliamentary system of representation, based on a "constitution similar in principle to that of the United Kingdom", the people of Canada elect representatives having various political party affiliations as shown in Table 11. In a general election, the Canadian electorate not only determines what political party leader shall be called on to form the Government of the day, but it also decides which of the parties is to become the Official Opposition. Her Majesty's Loyal Opposition occupies an essential place in constitutions based on the British parliamentary system, in that its function is to oppose or criticize in debate the Government in power—an essential to good government at all times. The Official Opposition is founded, like such institutions as the Cabinet and the Prime Ministership, on unwritten custom that has become firmly established. Although the position of Leader of the Opposition is not recognized in the British North America

Act, it received statutory acknowledgment in the Canadian Parliament in 1905 when the Senate and House of Commons Act (4-5 Edw. VII, c. 43, Sect. 2) provided an additional sessional allowance to "the member occupying the recognized position of Leader of the Opposition in the House of Commons".

11.—Electoral Districts, Voters on List and Votes Polled, Names and Addresses of Members of the House of Commons as Elected at the Twenty-Fourth General Election, Mar. 31, 1953, and Revised to Sept. 1, 1953.¹

Speaker.....	The Hon. ROLAND MICHENER
Prime Minister.....	The Rt. Hon. JOHN GEORGE DIEFENBAKER
Leader of the Opposition.....	The Hon. LESTER B. PEARSON
Clerk of the House of Commons.....	LÉON J. RAYMOND

NOTE.—The vote is summarized by provinces in Table 12, p. 76. The leaders of the political parties are indicated by asterisks (*). This information, except the population of constituencies, has been supplied by the Chief Electoral Officer. Party affiliations are unofficial. P.C.=Progressive Conservative; Lib.=Liberal; C.C.F.=Co-operative Commonwealth Federation; L-Lab.=Liberal Labour.

Province and Electoral District	Population, Census 1956	Voters on List	Total Votes Polled	Votes Polled by Member	Name of Member	P.O. Address	Party Affiliation
	No.	No.	No.	No.			
Newfoundland— (7 members)							
Bonavista-Twillingate..	48,354	24,349	18,117	13,670	Hon. J. W. PICKERSGILL	Ottawa, Ont.....	Lib.
Burin-Burgeo.....	46,362	21,624	16,318	11,360	C. W. CARTER.....	St. John's.....	Lib.
Grand Falls-White Bay-Labrador.....	71,416	35,034	26,649	16,328	C. R. GRANGER.....	St. John's.....	Lib.
Humber-St. George's..	64,683	29,101	23,924	13,468	H. M. BATTEN.....	Corner Brook.....	Lib.
St. John's East.....	66,132	33,993	27,585	17,894	J. A. McGRATH.....	St. John's.....	P.C.
St. John's West.....	62,921	32,947	26,706	15,953	Hon. W. J. BROWNE.....	St. John's.....	P.C.
Trinity-Conception....	55,206	27,725	21,629	12,599	J. R. TUCKER.....	St. John's.....	Lib.
Prince Edward Island— (4 members)							
Kings.....	17,853	9,956	8,965	5,018	J. A. MACDONALD.....	Cardigan.....	P.C.
Prince.....	38,007	19,314	17,383	10,444	O. H. PHILLIPS.....	Alberton.....	P.C.
Queens.....	43,425	24,930	42,954	13,969	Hon. J. A. MACLEAN.....	Beaton's Mills.....	P.C.
				13,480	H. MACQUARRIE.....	Victoria.....	P.C.
Nova Scotia— (12 members)							
Antigonish-Guysborough.....	26,878	14,757	12,662	6,758	C. O'LEARY.....	Antigonish.....	P.C.
Cape Breton North and Victoria.....	46,874	24,283	20,841	12,046	R. MUIR.....	Sydney Mines.....	P.C.
Cape Breton South.....	63,152	43,879	38,740	17,636	D. MACINNIS.....	Glace Bay.....	P.C.
Colchester-Hants.....	59,529	33,298	28,831	15,653	C. F. KENNEDY.....	Truro.....	P.C.
Cumberland.....	39,598	22,688	19,017	11,379	R. C. COATES.....	Amherst.....	P.C.
Digby-Annapolis-Kings	71,076	39,163	33,621	19,432	Hon. G. C. NOWLAN.....	Wolfville.....	P.C.
Halifax.....	197,943	112,253	179,237	53,693	R. McCLEAVE.....	Halifax.....	P.C.
				53,255	E. MORRIS.....	Halifax.....	P.C.
Inverness-Richmond...	32,833	19,064	15,518	7,725	R. S. MACLELLAN.....	Portage, Cape Breton.....	P.C.
Pictou.....	44,566	25,638	22,649	13,618	R. MACEWAN.....	New Glasgow.....	P.C.
Queens-Lunenburg.....	46,981	29,355	24,905	14,156	L. R. CROUSE.....	Lunenburg.....	P.C.
Shelburne-Yarmouth-Clare.....	45,287	25,818	22,408	12,071	F. F. LEGERE.....	Pinkney's Point..	P.C.
New Brunswick— (10 members)							
Charlotte.....	24,497	13,965	12,379	6,448	R. D. C. STEWART.....	St. George.....	P.C.
Gloucester.....	64,119	28,326	25,025	13,112	H. J. ROBICHAUD.....	Caraquet.....	Lib.
Kent.....	27,492	12,949	11,236	6,118	H. J. MICHAUD.....	Buctouche.....	Lib.
Northumberland-Miramichi.....	47,223	22,862	19,665	10,206	G. R. McWILLIAM.....	Newcastle.....	Lib.
Restigouche-Madawaska.....	76,708	35,342	30,956	17,221	J. C. VAN HORNE.....	Campbellton.....	P.C.
Royal.....	37,105	21,126	17,673	10,483	Hon. A. J. BROOKS.....	Sussex.....	P.C.

¹ Any changes in membership occurring between Sept. 1, 1958, and the date of going to press will be carried in an Appendix to this volume.

11.—Electoral Districts, Voters on List and Votes Polled, Names and Addresses of Members of the House of Commons as Elected at the Twenty-Fourth General Election, Mar. 31, 1958, and Revised to Sept. 1, 1958—continued.

Province and Electoral District	Population, Census 1956	Voters on List	Total Votes Polled	Votes Polled by Member	Name of Member	P.O. Address	Party Affiliation
No.	No.	No.	No.	No.			
New Brunswick—concl.							
Saint John-Albert.....	92,335	54,781	42,782	27,049	T. M. BELL.....	Saint John.....	P.C.
Victoria-Carleton.....	42,093	22,083	17,961	10,692	G. W. MONTGOMERY.....	Woodstock.....	P.C.
Westmorland.....	85,414	48,565	42,107	20,149	W. L. M. CREAGHAN.....	Moncton.....	P.C.
York-Sunbury.....	57,630	34,388	29,922	15,943	J. C. MACRAE.....	Fredericton.....	P.C.
Quebec—							
(75 members)							
Argenteuil-Deux-Montagnes.....	55,069	30,486	25,889	14,483	J. O. LATOUR.....	St. Benoit.....	P.C.
Beauce.....	59,290	28,585	24,773	10,417	J. P. RACINE.....	St. Honoré de Shenley.....	Lib.
Beauharnois-Salaberry.....	53,811	31,939	25,883	13,202	G. BRUCHÉSI.....	Ville de Léry.....	P.C.
Bellechasse.....	32,546	15,842	13,204	6,861	N. DORION.....	Ste. Foy.....	P.C.
Berthier-Maskinongé-Delanaudière.....	47,423	24,879	21,653	12,702	R. PAUL.....	Louiseville.....	P.C.
Bonaventure.....	43,240	19,514	16,992	9,135	L. GRENIER.....	New Carlisle.....	P.C.
Brome-Missisquoi.....	40,563	22,434	18,575	11,361	H. GRAFFTEY.....	Knowlton.....	P.C.
Chambly-Rouville.....	45,350	25,300	21,362	10,546	M. JOHNSON.....	Beloeil.....	P.C.
Champlain.....	58,321	30,525	27,156	13,537	P. LAHAYE.....	Batiscan.....	P.C.
Chapleau.....	65,466	32,006	24,896	14,705	J. J. MARTEL.....	Amos.....	P.C.
Charlevoix.....	47,430	23,479	20,447	12,315	M. ASSELIN.....	La Malbaie.....	P.C.
Châteauguay-Huntingdon-Laprairie.....	52,413	28,040	22,033	12,365	M. E. BARRINGTON.....	Orms town.....	P.C.
Chicoutimi.....	70,668	34,437	30,659	15,407	V. BRASSARD.....	Chicoutimi.....	P.C.
Compton-Frontenac.....	44,048	20,844	18,171	9,383	G. M. STEARNS.....	Lac Mégantic.....	P.C.
Dorchester.....	38,737	18,375	16,014	8,766	N. DROUIN.....	St. Maxime de Scott.....	P.C.
Drummond-Arthabaska.....	83,407	41,685	35,316	17,288	S. BOULANGER.....	Victoriaville.....	Lib.
Gaspé.....	63,941	28,994	24,978	14,535	R. L. ENGLISH.....	Rivière au Renard.....	P.C.
Gatineau.....	48,721	25,625	20,935	10,840	R. LEDUC.....	Maniwaki.....	Lib.
Hull.....	76,231	41,923	36,238	20,132	A. CARON.....	Hull.....	Lib.
Îles-de-la-Madeleine.....	11,556	5,191	4,755	2,471	J.-R. KEAYS.....	Gaspé.....	P.C.
Joliette-L'Assomption-Montcalm.....	87,101	46,600	37,561	21,821	L.-J. PIGEON.....	Joliette.....	P.C.
Kamouraska.....	35,907	18,038	14,683	7,691	C. RICHARD.....	Ste. Anne de la Pocatière.....	P.C.
Labelle.....	43,705	21,609	18,440	10,606	Hon. H. COURTEMANCHE.....	Mont Laurier.....	P.C.
Lac-Saint-Jean.....	42,918	19,931	17,813	8,255	R. PARIZEAU.....	Alma.....	P.C.
Lapointe.....	68,106	33,701	29,222	12,113	A. BRASSARD.....	Jonquière.....	Lib.
Lévis.....	44,284	25,135	21,806	12,410	M. BOURGET.....	Lévis.....	Lib.
Longueuil.....	85,540	48,560	37,829	18,637	P. SÉVIGNY.....	Westmount.....	P.C.
Lotbinière.....	38,625	18,521	16,182	9,610	Hon. R. O'HURLEY.....	St. Gilles.....	P.C.
Matapédia-Matane.....	67,441	29,752	25,581	14,969	A. BELZILE.....	St. Léon le Grand.....	P.C.
Mégantic.....	64,958	31,569	26,942	13,486	G. ROBERGE.....	Thetford Mines.....	Lib.
Montmagny-L'Islet.....	39,840	20,173	16,777	8,689	Hon. J. LESAGE.....	Quebec.....	Lib.
Nicolet-Yamaska.....	45,880	23,515	19,231	11,880	Hon. P. COMTOIS.....	Pierreville.....	P.C.
Pontiac-Témiscamingue.....	42,432	20,628	17,423	8,842	P. MARTINEAU.....	Campbell's Bay.....	P.C.
Portneuf.....	46,976	25,590	21,627	11,386	A. ROMPRÉ.....	St. Ubalde.....	P.C.
Quebec East.....	87,323	52,622	45,397	22,285	Y. R. TASSÉ.....	Sillery.....	P.C.
Quebec South.....	54,949	37,616	31,683	15,771	J. FLYNN.....	Quebec.....	P.C.
Quebec West.....	55,413	32,338	27,924	14,223	J. E. BISSONNETTE.....	St. Vallier Ouest.....	P.C.
Quebec-Montmorency.....	98,331	53,501	46,471	25,394	R. LAFRENIÈRE.....	Ste. Foy.....	P.C.
Richelieu-Verchères.....	53,068	29,394	24,738	13,497	L.-J.-L. CARDIN.....	Ste. Anne de Sorel.....	Lib.
Richmond-Wolfe.....	57,963	29,305	23,990	11,984	V.-F. DUBOIS.....	Asbestos.....	P.C.
Rimouski.....	70,683	33,759	28,657	16,426	E. MORISSETTE.....	Mont Joli.....	P.C.
Rouerval.....	52,980	23,342	19,984	10,696	J. N. TREMBLAY.....	St. André.....	P.C.
Saint-Hyacinthe-Bagot.....	58,517	32,557	26,947	15,761	T. RICARD.....	St. Hyacinthe.....	P.C.
Saint-Jean-Iberville-Napierville.....	57,871	30,739	26,826	14,332	Y. DUPUIS.....	St. Jean.....	Lib.
Saint-Maurice-Laféche.....	79,451	43,873	35,059	18,556	J.-A. RICHARD.....	Shawinigan.....	Lib.
Saguenay.....	56,655	32,282	24,820	13,194	P. LA RUE.....	Baie Comeau.....	P.C.
Shedden.....	60,388	31,755	26,215	13,001	M. BOIVIN.....	Granby.....	Lib.
Sherbrooke.....	84,463	36,975	30,362	15,383	M. ALLARD.....	Sherbrooke.....	P.C.
Stanstead.....	41,348	22,454	18,659	10,363	R. LÉTOURNEAU.....	Stanstead Plain.....	P.C.
Témiscouata.....	58,424	26,927	23,379	13,361	A. FRÉCHETTE.....	Cabano.....	P.C.

¹ Resigned June 11, 1958, to assume leadership of the Liberal Party in Quebec; seat vacant at Sept. 1, 1958. See Appendix for later by-election.

11.—Electoral Districts, Voters on List and Votes Polled, Names and Addresses of Members of the House of Commons as Elected at the Twenty-Fourth General Election, Mar. 31, 1958, and Revised to Sept. 1, 1958—continued.

Province and Electoral District	Population, Census 1956	Voters on List	Total Votes Polled	Votes Polled by Member	Name of Member	P.O. Address	Party Affiliation
	No.	No.	No.	No.			
Quebec—concluded							
Terrebonne.....	81,895	46,746	37,953	19,319	M. DESCHAMBAULT.....	St. Jérôme.....	P.C.
Trois-Rivières.....	62,932	36,338	30,505	18,049	Hon. L. BALGER.....	Trois Rivières.....	P.C.
Vaudreuil-Soulanges...	32,361	18,420	15,558	8,161	M. BOURBONNAIS.....	Terrasse Vaudreuil.....	P.C.
Villeneuve.....	74,366	34,517	29,067	10,102	A. DUMAS.....	Malartic.....	Lib.
Island of Montreal and Ile Jésus—							
Cartier.....	48,952	25,907	16,713	7,097	L. D. CRESTOHL.....	Montreal.....	Lib.
Dollard.....	84,052	51,102	38,820	18,760	G. ROUTEAU.....	Montreal.....	Lib.
Hochelaga.....	75,004	46,363	32,101	16,706	R. EUDES.....	Montreal.....	Lib.
Jacques-Cartier—							
Lasalle.....	110,931	70,995	58,922	30,908	J. PRATT.....	Dorval.....	P.C.
Lafontaine.....	50,584	33,355	23,991	12,195	J. G. RATELLE.....	Montreal.....	Lib.
Laurier.....	47,055	29,400	20,046	10,125	Hon. L. CHEVRIER.....	Pont Viau.....	Lib.
Laval.....	117,525	73,692	55,581	26,076	R. BOURDAGES.....	Laval des Rapides.....	P.C.
Maison-neuve—							
Rosemont.....	94,124	62,259	43,720	21,515	J. P. DESCHATELETS.....	Montreal.....	Lib.
Mercier.....	124,913	76,119	53,256	26,463	A. GILLET.....	Cité de St. Michel.....	P.C.
Mount Royal.....	106,636	66,494	46,113	22,051	A. A. MACNAUGHTON.....	Montreal.....	Lib.
Notre-Dame-de-Grâce.....	93,983	59,476	45,260	27,145	Hon. W. M. HAMILTON.....	Montreal.....	P.C.
Outremont-Saint-Jean.....	58,446	34,924	23,220	12,715	R. BOURQUE.....	Outremont.....	Lib.
Papineau.....	81,066	50,872	35,387	18,466	A. MEUNIER.....	Montreal.....	Lib.
St. Ann.....	40,783	22,689	16,143	8,289	G. LOISELLE.....	Montreal.....	Lib.
Saint-Antoine—							
Westmount.....	61,800	41,379	30,028	15,882	R. WEBSTER.....	Westmount.....	P.C.
Saint-Denis.....	65,286	40,538	29,080	14,737	A. DENIS.....	Montreal.....	Lib.
Saint-Henri.....	68,959	40,643	29,946	11,533	H.-PIT LESSARD.....	Montreal.....	Lib.
Saint-Jacques.....	63,653	40,856	25,021	12,798	C.-E. CAMPEAU.....	Montreal.....	P.C.
St. Lawrence—							
St. George.....	44,510	27,503	17,901	9,702	E. CHAMBERS.....	Westmount.....	P.C.
Sainte-Marie.....	60,539	35,657	22,770	11,635	G. J. VALADE.....	Montreal.....	P.C.
Verdun.....	78,202	47,584	35,940	16,357	H. E. MONTEITH.....	Verdun.....	P.C.
Ontario—							
(85 members)							
Algoma East.....	40,838	29,196	21,712	11,240	Hon. L. B. PEARSON*...	Ottawa.....	Lib.
Algoma West.....	63,727	34,867	28,852	12,390	G. E. NIXON.....	Sault Ste. Marie.....	Lib.
Brantford.....	51,813	31,065	25,703	14,059	J. WRATTEN.....	Brantford.....	P.C.
Brant-Haldimand.....	52,246	29,002	23,546	15,182	J. A. CHARLTON.....	Paris.....	P.C.
Bruce.....	28,658	17,142	14,576	9,120	A. E. ROBINSON.....	Kincardine.....	P.C.
Carleton.....	92,590	57,412	48,929	32,741	R. A. BELL.....	Britannia Bay.....	P.C.
Cochrane.....	42,720	22,199	17,710	7,851	J. A. HABEL.....	Kapuskasing.....	Lib.
Dufferin-Simcoe.....	48,859	24,880	18,967	13,037	Hon. W. E. ROWE.....	Newton Robinson.....	P.C.
Durham.....	35,827	20,980	17,535	9,732	P. VIVIAN.....	Port Hope.....	P.C.
Elgin.....	59,114	32,954	25,340	17,146	J. A. MCBAIN.....	St. Thomas.....	P.C.
Essex East.....	93,859	52,484	43,588	18,074	Hon. P. MARTIN.....	Windsor.....	Lib.
Essex South.....	51,613	28,399	23,640	14,326	R. D. THERASHER.....	Amherstburg.....	P.C.
Essex West.....	99,048	55,688	42,173	18,927	N. L. SPENCER.....	Windsor.....	P.C.
Fort William.....	51,450	29,129	25,131	9,915	H. BADAMAI.....	Fort William.....	Lib.
Glenarry-Prescott.....	44,984	24,345	20,400	10,385	O. F. VILLENEUVE.....	Maxville.....	P.C.
Grenville-Dundas.....	37,541	22,103	15,737	10,793	A. C. CASSELMAN.....	Prescott.....	P.C.
Grey-Bruce.....	36,200	21,686	18,280	11,878	E. A. WINKLER.....	Hanover.....	P.C.
Grey North.....	38,183	23,217	19,633	12,240	P. V. NOBLE.....	Shallow Lake.....	P.C.
Halton.....	68,297	43,467	34,960	21,056	A. BEST.....	Georgetown.....	P.C.
Hamilton East.....	67,147	39,537	29,897	15,046	G. MARTINI.....	Hamilton.....	P.C.
Hamilton South.....	97,438	58,689	45,777	24,453	R. M. T. McDONALD.....	Hamilton.....	P.C.
Hamilton West.....	72,232	42,259	31,094	19,883	Hon. ELLEN FAIRCLOUGH.....	Hamilton.....	P.C.
Hastings-Frontenac.....	46,950	27,096	20,257	13,983	Hon. S. E. SMITH.....	Ottawa.....	P.C.
Hastings South.....	62,804	34,830	29,381	17,849	L. GRILLS.....	Belleville.....	P.C.
Huron.....	46,426	25,311	21,881	14,108	E. CARDIFF.....	Brussels.....	P.C.
Kenora-Rainy River.....	67,252	33,138	27,493	11,956	W. M. BENTICKSON.....	Kenora.....	P.C.
Kent.....	68,216	38,108	31,462	17,348	H. W. DANFORTH.....	Blenheim.....	Lib.
Kingston.....	65,680	38,701	33,025	16,989	B. ALLMARK.....	Kingston.....	P.C.

* Died May 11, 1958; seat vacant at Sept. 1, 1958. See Appendix for later by-election.

11.—Electoral Districts, Voters on List and Votes Polled, Names and Addresses of Members of the House of Commons as Elected at the Twenty-Fourth General Election, Mar. 31, 1958, and Revised to Sept. 1, 1958—continued.

Province and Electoral District	Population, Census 1956	Voters on List	Total Votes Polled	Votes Polled by Member	Name of Member	P.O. Address	Party Affiliation
No.	No.	No.	No.	No.			
Ontario—concluded							
Lambton-Kent.....	41,220	23,583	18,735	12,835	E. J. CAMPBELL.....	Wallaceburg.....	P.C.
Lambton West.....	67,350	37,967	29,509	16,603	J. W. MURPHY.....	Camlachie.....	P.C.
Lanark.....	37,903	22,204	16,557	12,116	G. H. DOUCETT.....	Carleton Place.....	P.C.
Leeds.....	43,199	25,583	22,040	12,675	H. STANTON.....	Seeley's Bay.....	P.C.
Lincoln.....	111,740	64,403	51,627	29,958	J. SMITH.....	St. Catharines.....	P.C.
London.....	74,865	46,777	36,399	24,276	G. E. HALPENNY.....	London.....	P.C.
Middlesex East.....	78,524	45,085	36,351	24,896	H. O. WHITE.....	Glanworth.....	P.C.
Middlesex West.....	37,508	21,786	18,033	11,974	W. H. A. THOMAS.....	Strathroy.....	P.C.
Niagara Falls.....	70,950	40,348	30,956	14,025	W. L. HOUCK.....	Niagara Falls.....	Lib.
Nickel Belt.....	60,098	29,774	25,363	11,866	O. J. GODIN.....	Sudbury.....	P.C.
Nipissing.....	58,258	31,977	26,940	15,046	J. R. GARLAND.....	North Bay.....	Lib.
Norfolk.....	46,122	25,250	19,970	12,369	J. E. KNOWLES.....	Langton.....	P.C.
Northumberland.....	38,205	22,897	19,708	12,517	B. THOMPSON.....	Brighton.....	P.C.
Ontario.....	99,039	58,844	46,611	26,887	Hon. M. STARR.....	Oshawa.....	P.C.
Ottawa East.....	52,473	33,372	28,259	17,161	J. T. RICHARD.....	Ottawa.....	Lib.
Ottawa West.....	68,255	41,767	37,913	19,098	G. McILRAITH.....	Ottawa.....	Lib.
Oxford.....	65,228	36,986	29,714	22,079	W. NESBITT.....	Woodstock.....	P.C.
Parry Sound-Muskoka.....	52,556	30,517	24,342	14,888	G. H. AIKEN.....	Gravenhurst.....	P.C.
Peel.....	83,108	49,934	38,846	23,379	J. PALETTE.....	Port Credit.....	P.C.
Perth.....	53,410	32,294	26,245	18,295	Hon. J. W. MONTEITH.....	Stratford.....	P.C.
Peterborough.....	59,729	36,216	28,818	19,032	G. K. FRASER.....	Lakefield.....	P.C.
Port Arthur.....	78,111	39,784	31,794	12,217	D. M. FRASER.....	Port Arthur.....	C.C.F.
Prince Edward-Lennox.....	35,666	20,342	15,361	10,783	C. A. MILLIGAN.....	Pamabee.....	P.C.
Renfrew North.....	45,802	23,543	20,821	10,425	J. M. FORGIE.....	Napemee.....	Lib.
Renfrew South.....	34,403	19,439	17,498	9,259	J. W. BASKIN.....	Pembroke.....	P.C.
Russell.....	88,306	50,514	43,380	21,575	J. O. GOUR.....	Renfrew.....	P.C.
Simcoe East.....	54,006	29,164	24,153	15,149	P. B. RYNARD.....	Casselman.....	Lib.
Simcoe North.....	40,754	25,051	19,947	13,855	H. SMITH.....	Orillia.....	P.C.
Stormont.....	56,452	31,867	26,637	13,964	G. CAMPBELL.....	Barrie.....	P.C.
Sudbury.....	67,868	37,631	31,970	16,216	R. MITCHELL.....	Cornwall.....	P.C.
Timiskaming.....	49,891	25,420	21,159	7,544	A. PETERS.....	Sudbury.....	Lib.
Timmins.....	45,469	23,286	19,493	7,312	M. MARTIN.....	New Liskeard.....	C.C.F.
Victoria.....	45,661	28,660	22,580	16,080	C. W. HODGSON.....	Timmins.....	C.C.F.
Waterloo North.....	95,256	57,292	45,278	24,526	O. W. M. WEICHEL.....	Haliburton.....	P.C.
Waterloo South.....	53,518	32,330	26,135	15,621	W. ANDERSON.....	Elmira.....	P.C.
Welland.....	78,656	41,365	36,420	15,365	W. H. McMILLAN.....	Galt.....	P.C.
Wellington-Huron.....	31,712	18,493	15,666	10,574	M. HOWE.....	Thorold.....	Lib.
Wellington South.....	50,928	30,372	25,814	15,160	A. D. HALE.....	Arthur.....	P.C.
Wentworth.....	79,421	47,532	36,778	23,854	F. E. LENNARD.....	Guelph.....	P.C.
York Centre.....	127,591	80,081	58,628	30,764	F. C. STINSON.....	Dundas.....	P.C.
York East.....	73,284	49,423	37,728	22,900	R. H. MCGREGOR.....	Willowdale.....	P.C.
York-Humber.....	78,202	51,339	40,008	23,723	MARGARET AITKEN.....	Toronto.....	P.C.
York North.....	70,595	45,201	34,178	21,490	C. A. CATHERS.....	Toronto.....	P.C.
York-Scarborough.....	167,310	112,628	89,439	57,396	F. MCGEE.....	Newmarket.....	P.C.
York South.....	105,979	65,785	47,229	22,980	W. G. BEECH.....	Don Mills.....	P.C.
York West.....	110,050	72,484	57,544	34,208	J. B. HAMILTON.....	Toronto.....	P.C.
City of Toronto—							
Broadview.....	57,494	34,720	24,296	15,364	Hon. G. HEES.....	Toronto.....	P.C.
Danforth.....	84,617	54,839	41,534	24,139	R. H. SMALL.....	Toronto.....	P.C.
Davenport.....	62,430	32,641	25,307	12,117	M. D. MORTON.....	Toronto.....	P.C.
Eglinton.....	71,271	52,098	41,091	28,565	Hon. D. M. FLEMING.....	Toronto.....	P.C.
Greenwood.....	56,637	35,551	26,573	16,284	Hon. J. M. MACDONNELL.....	Toronto.....	P.C.
High Park.....	59,850	35,454	27,821	14,289	J. W. KUCHEREPA.....	Toronto.....	P.C.
Parkdale.....	56,650	34,790	26,456	13,640	A. MALONEY.....	Toronto.....	P.C.
Rosedale.....	55,088	33,519	24,826	15,429	D. J. WALKER.....	Toronto.....	P.C.
St. Paul's.....	54,262	40,656	28,590	18,213	Hon. R. MICHENER.....	Toronto.....	P.C.
Spadina.....	85,490	43,310	29,893	14,616	C. E. REA.....	Toronto.....	P.C.
Trinity.....	63,801	31,385	22,915	10,203	E. R. LOCKYER.....	Toronto.....	P.C.
Manitoba—							
(14 members)							
Brandon-Souris.....	62,365	36,921	30,152	22,185	W. G. DINSDALE.....	Brandon.....	P.C.
Churchill.....	49,999	22,856	17,994	11,506	R. SIMPSON.....	Flin Flon.....	P.C.
Dauphin.....	41,804	22,299	18,835	8,674	R. E. FORBES.....	Dauphin.....	P.C.
Lisgar.....	46,756	25,291	19,703	13,072	G. MUIR.....	Roland.....	P.C.

11.—Electoral Districts, Voters on List and Votes Polled, Names and Addresses of Members of the House of Commons as Elected at the Twenty-Fourth General Election, Mar. 31, 1958, and Revised to Sept. 1, 1958—continued.

Province and Electoral District	Population, Census 1956	Voters on List	Total Votes Polled	Votes Polled by Member	Name of Member	P.O. Address	Party Affiliation
No.	No.	No.	No.	No.			
Manitoba—concluded							
Marquette.....	49,190	26,009	23,015	14,748	N. MANDZIUK.....	Oakburn.....	P.C.
Portage-Neepawa.....	55,875	28,338	23,448	15,304	G. C. FAIRFIELD.....	Portage la Prairie	P.C.
Provencher.....	40,658	20,220	15,290	8,278	W. H. JORGENSEN.....	Ste. Elizabeth.....	P.C.
St. Boniface.....	59,422	34,764	29,033	12,688	L. RÉGNIER.....	St. Boniface.....	P.C.
Selkirk.....	49,047	23,775	18,767	8,878	E. STEFANSON.....	Gimli.....	P.C.
Springfield.....	41,814	21,545	16,743	7,045	V. YACULA.....	Winnipeg.....	P.C.
Winnipeg North.....	97,945	69,385	46,833	19,629	M. SMITH.....	Winnipeg.....	P.C.
Winnipeg North Centre	77,917	44,625	32,445	14,911	J. MACLEAN.....	Winnipeg.....	P.C.
Winnipeg South.....	98,248	62,091	61,478	32,308	G. CHOWN.....	Winnipeg.....	P.C.
Winnipeg South Centre.	80,500	53,443	41,912	27,722	Hon. G. CHURCHILL.....	Winnipeg.....	P.C.
Saskatchewan—							
(17 members)							
Assiniboia.....	46,444	25,446	21,729	9,104	H. R. ARGUE*.....	Kayville.....	C.C.F.
Humboldt-Melfort.....	49,221	25,644	20,203	9,975	R. RAPP.....	Spalding.....	P.C.
Kindersley.....	47,724	26,043	21,434	8,935	R. L. HANBIDGE.....	Kerobert.....	P.C.
Mackenzie.....	45,971	22,421	17,281	9,138	S. J. KORCHINSKI.....	Rama.....	P.C.
Meadow Lake.....	37,840	17,704	12,922	6,830	A. C. CADY.....	Spiritwood.....	P.C.
Merville.....	42,219	22,762	19,925	8,440	J. N. ORNSTON.....	Cupar.....	P.C.
Moose Jaw-Lake Centre	64,947	37,274	31,627	18,736	J. E. PASCOE.....	Moose Jaw.....	P.C.
Moose Mountain.....	42,897	24,673	20,253	9,287	R. R. SOUTHEM.....	Gainsborough.....	P.C.
Prince Albert.....	56,121	28,825	23,107	16,583	Rt. Hon. J. G. DIEFFEN- BAKER*.....	Prince Albert.....	P.C.
Qu'Appelle.....	39,894	21,168	17,931	10,514	Hon. A. HAMILTON.....	Saskatoon.....	P.C.
Regina City.....	81,235	52,182	45,123	24,424	K. H. MORE.....	Regina.....	P.C.
Rosetown-Biggar.....	45,303	25,619	21,022	9,962	C. O. COOPER.....	Hawarden.....	P.C.
Rosthern.....	48,815	24,000	17,765	8,166	E. NASSERDEN.....	Warman.....	P.C.
Saskatoon.....	73,164	48,945	40,732	24,622	H. F. JONES.....	Saskatoon.....	P.C.
Swift Current- Maple Creek.....	55,313	31,487	25,823	11,618	J. MCINTOSH.....	Swift Current.....	P.C.
The Battlefords.....	52,300	26,355	20,430	10,970	A. HORNER.....	Blaine Lake.....	P.C.
Yorkton.....	51,267	27,601	22,642	9,882	G. D. CLANCY.....	Raymore.....	P.C.
Alberta—							
(17 members)							
Acadia.....	46,105	24,961	19,287	9,669	J. H. HORNER.....	Pollockville.....	P.C.
Athabasca.....	56,611	25,778	18,944	9,751	F. J. BIGG.....	Westlock.....	P.C.
Battle River-Camrose.....	57,578	30,103	22,828	13,049	C. S. SMALLWOOD.....	Irma.....	P.C.
Bow River.....	47,454	25,690	20,229	12,695	E. M. WOOLLIAMS.....	Calgary.....	P.C.
Calgary North.....	98,777	59,626	43,367	30,930	Hon. D. S. HARKNESS.....	Calgary.....	P.C.
Calgary South.....	95,245	67,290	42,210	29,482	A. SMITH.....	Calgary.....	P.C.
Edmonton East.....	70,755	40,322	28,319	15,236	W. SKOREYKO.....	Edmonton.....	P.C.
Edmonton-Strathcona.	91,293	54,429	42,531	25,885	T. NUGENT.....	Edmonton.....	P.C.
Edmonton West.....	106,778	61,781	46,763	30,937	M. LAMBERT.....	Edmonton.....	P.C.
Jasper-Edson.....	62,652	32,339	22,000	12,522	H. M. HORNER.....	Barhead.....	P.C.
Lethbridge.....	62,332	28,764	23,101	13,364	D. R. GUNDLOCK.....	Warner.....	P.C.
Macleod.....	50,177	25,415	20,289	11,911	L. E. KINDT.....	High River.....	P.C.
Medicine Hat.....	56,918	30,160	23,662	10,886	E. W. BRUNSDEN.....	Brooks.....	P.C.
Peace River.....	69,725	34,262	22,800	13,328	G. W. BALDWIN.....	Peace River.....	P.C.
Red Deer.....	52,075	28,614	21,311	11,569	H. ROGERS.....	Red Deer.....	P.C.
Vegreville.....	45,322	23,641	17,091	7,918	F. J. W. FANE.....	Mundare.....	P.C.
Wetaskiwin.....	53,321	25,655	18,245	10,557	J. S. SPEAKMAN.....	Wetaskiwin.....	P.C.
British Columbia—							
(22 members)							
Burnaby-Coquitlam.....	67,202	39,681	30,179	12,917	E. REGIER.....	East Burnaby.....	C.C.F.
Burnaby-Richmond.....	73,030	44,357	34,284	15,570	J. DRYSDALE.....	Burnaby 1.....	P.C.
Cariboo.....	60,464	32,474	21,778	9,327	W. C. HENDERSON.....	Rolla.....	P.C.
Coast-Capilano.....	91,051	56,211	44,698	19,343	W. H. PAYNE.....	West Vancouver.....	P.C.
Comox-Alberni.....	65,414	33,454	25,114	11,483	H. C. MCQUILLAN.....	Courtenay.....	P.C.
Esquimalt-Saanich.....	59,812	37,371	28,937	18,768	Hon. G. R. PEARKES.....	Saanich.....	P.C.
Fraser Valley.....	75,518	40,464	31,696	13,890	H. HICKES.....	Chilliwack.....	P.C.
Kamloops.....	59,139	31,202	22,036	13,858	Hon. E. D. FULTON.....	Kamloops.....	P.C.
Kootenay East.....	36,845	19,154	16,162	5,363	M. L. MCFARLANE.....	Cranbrook.....	P.C.

11.—Electoral Districts, Voters on List and Votes Polled, Names and Addresses of Members of the House of Commons as Elected at the Twenty-Fourth General Election, Mar. 31, 1958, and Revised to Sept. 1, 1958—concluded.

Province, Territory and Electoral District	Population, Census 1956	Voters on List	Total Votes Polled	Votes Polled by Member	Name of Member	P.O. Address	Party Affiliation
	No.	No.	No.	No.			
British Columbia—concluded							
Kootenay West.....	53,633	28,024	21,897	9,460	H. W. HERRIDGE.....	Nakusp.....	C.C.F.
Nanaimo.....	52,805	31,184	24,616	10,734	W. F. MATTHEWS.....	Nanaimo.....	P.C.
New Westminster.....	104,632	66,614	51,162	21,202	W. A. MCLENNAN.....	New Westminster	P.C.
Okanagan Boundary.....	58,903	33,275	27,115	13,065	D. V. PUGH.....	Oliver.....	P.C.
Okanagan-Revelstoke.....	32,744	17,742	14,710	7,004	S. FLEMING.....	Vernon.....	P.C.
Skeena.....	56,664	22,283	16,858	6,647	F. HOWARD.....	Terrace.....	C.C.F.
Vancouver-Burrard.....	59,862	42,155	29,978	18,001	J. TAYLOR.....	Vancouver.....	P.C.
Vancouver Centre.....	43,346	35,792	23,163	14,044	D. JUNG.....	Vancouver.....	P.C.
Vancouver East.....	57,302	34,152	23,913	11,436	H. E. WINCH.....	Vancouver.....	C.C.F.
Vancouver-Kingsway.....	61,720	38,270	28,132	11,928	J. F. BROWNE.....	Vancouver.....	P.C.
Vancouver Quadra.....	69,103	45,190	35,316	24,802	Hon. H. C. GREEN.....	Vancouver.....	P.C.
Vancouver South.....	77,716	48,907	37,093	22,292	E. J. BROOME.....	Vancouver.....	P.C.
Victoria.....	81,559	52,281	41,145	24,945	A. D. MCPHILLIPS.....	Victoria.....	P.C.
Yukon Territory—(1 member)							
Yukon.....	12,190	6,071	5,469	2,947	E. NIELSEN.....	Whitehorse.....	P.C.
Northwest Territories—(1 member)							
Mackenzie River.....	12,492	6,716	4,945	2,782	M. A. HARDIE.....	Yellowknife.....	Lib.

Indemnities and Allowances.—Members of the Senate receive a sessional allowance at the rate of \$8,000 per annum. In addition they receive at the end of each calendar year an annual expense allowance of \$2,000 which is subject to income tax. Members of the House of Commons are paid a sessional allowance at the rate of \$8,000 per annum. In addition they receive \$2,000 as an expense allowance paid at the end of each calendar year. This allowance, except that for Ministers of the Crown and for Leaders of the Opposition in the House and in the Senate, is not subject to income tax. The remuneration of the Prime Minister is \$25,000 a year and of a Cabinet Minister and the Leader of the Opposition \$15,000 a year in addition to the sessional allowance and expense allowance each receives as a Member of Parliament. A Cabinet Minister is also entitled to a motor car allowance of \$2,000. The remuneration of a Minister without Portfolio is \$7,500 a year in addition to the sessional allowance and expense allowance. The Speakers of the Senate and of the House of Commons each receive, besides the sessional allowance and expense allowance, a salary of \$9,000 and a motor car allowance of \$1,000 and each is entitled to \$3,000 in lieu of a residence. The Deputy Speaker of the House of Commons receives a salary of \$6,000 and an allowance of \$1,500 in lieu of a residence. The Deputy Chairman of Committees receives an annual allowance of \$2,000. Parliamentary Assistants to the Ministers of the Crown receive \$8,000 sessional allowance as Members of Parliament, \$4,000 a year as Parliamentary Assistants and the \$2,000 expense allowance paid to all Members of Parliament.

The Federal Franchise.—The present federal franchise laws are contained in the Canada Elections Act (R.S.C. 1952, c. 23). The franchise is conferred upon all Canadian citizens or British subjects, men and women, who have attained the age of 21

years and who have been ordinarily resident in Canada for 12 months prior to polling day at a federal election and ordinarily resident in the electoral district on the date of the issue of the writ ordering such election. Persons denied the right to vote are:—

- (1) The Chief Electoral Officer and the Assistant Chief Electoral Officer;
- (2) Judges appointed by the Governor General in Council;
- (3) The returning officer for each electoral district;
- (4) Persons undergoing punishment as inmates of any penal institution for the commission of any offence;
- (5) Indians ordinarily resident on an Indian reserve who were not members of His Majesty's Forces in World Wars I or II or who did not execute a waiver of exemption under the Indian Act from taxation on and in respect of personal property;
- (6) Persons restrained of their liberty or deprived of the management of their property by reason of mental disease;
- (7) Persons disqualified under any law relating to the disqualification of electors for corrupt and illegal practices.

The Canadian Forces Voting Regulations set out in the Schedule to the Canada Elections Act prescribe voting procedure for members of the Armed Forces of Canada and also for veterans in receipt of treatment or domiciliary care in certain institutions.

12.—Voters on the Lists and Votes Polled at the Federal General Elections of 1949, 1953, 1957 and 1958

NOTE.—Corresponding statistics for the general elections of 1911, 1917, 1921 and 1925 are given in the 1926 Year Book, p. 82; those for 1926 in the 1945 edition, p. 66; those for 1930 and 1935 in the 1948-49 edition, p. 94; those for 1940 in the 1956 edition, p. 81; and for 1945 in the 1957-58 edition, p. 57.

Province or Territory	Voters on the Lists				Votes Polled			
	1949	1953	1957	1958	1949	1953	1957	1958
	No.	No.	No.	No.	No.	No.	No.	No.
Newfoundland.....	182,439	194,715	197,239	204,778	105,190	111,768	92,858	160,928
Prince Edward Island.....	55,772	55,469	54,224	54,200	68,393 ¹	66,562 ¹	67,218 ¹	69,302 ¹
Nova Scotia.....	373,585	380,836	384,948	390,196	338,928 ²	334,855 ²	394,130 ²	418,479 ²
New Brunswick.....	286,723	287,657	291,036	294,387	225,877	225,390	237,001	249,706
Quebec.....	2,177,152	2,352,619	2,504,978	2,576,682	1,610,510	1,565,400	1,815,586	2,045,199
Ontario.....	2,718,118	2,894,150	3,100,456	3,189,422	2,042,294	1,938,959	2,295,033	2,534,555
Manitoba.....	451,882	466,374	473,802	481,552	324,079	276,422	351,827	385,648
Saskatchewan.....	472,884	480,532	484,318	488,139	375,471	356,479	392,266	399,949
Alberta.....	492,228	548,747	591,043	608,820	341,222	343,258	431,184	452,977
British Columbia.....	673,782	730,882	802,017	830,237	464,785	475,456	596,424	629,982
Yukon Territory ³	9,064	5,028	5,516	6,071	6,823	3,818	4,892	5,469
Northwest Territories ⁴	...	5,682	6,434	6,716	...	3,596	4,043	4,945
Totals.....	7,593,629	8,401,691	8,896,011	9,131,200	5,903,572	5,701,963	6,682,462	7,357,139

¹ Each voter in the double-member constituency of Queens County, P.E.I., had two votes; in 1958, 24,930 voters on the list cast 42,954 votes.

² Each voter in the double-member constituency of Halifax, N.S., had two votes; in 1958, 112,253 voters on the list cast 179,287 votes.

³ Electoral District of Yukon.

⁴ Electoral District of Mackenzie River.

Subsection 3.—The Judiciary

The Federal Judiciary

The Parliament of Canada is empowered by Sect. 101 of the British North America Act to provide from time to time for the constitution, maintenance and organization of a general Court of Appeal for Canada and for the establishment of any additional courts for the better administration of the laws of Canada. Under this provision, Parliament has established the Supreme Court of Canada, the Exchequer Court of Canada and certain miscellaneous courts.

Supreme Court of Canada.—This Court, first established in 1875 and now governed by the Supreme Court Act (R.S.C. 1952, c. 259), consists of a chief justice who is called the Chief Justice of Canada, and eight puisne judges. The chief justice and the puisne judges are appointed by the Governor in Council and they hold office during good behaviour but are removable by the Governor General on address of the Senate and the House of Commons. They cease to hold office upon attaining the age of 75 years. The Court sits at Ottawa and exercises general appellate jurisdiction throughout Canada in civil and criminal cases. The Court is also required to consider and advise upon questions referred to it by the Governor in Council and it may also advise the Senate or the House of Commons on private Bills referred to the Court under any rules or orders of the Senate or the House of Commons.

Appeals may be brought from any final judgment of the highest court of final resort in a province in any case where the amount or value of the matter in controversy exceeds the sum of \$10,000. An appeal may be brought from any other final judgment with leave of the highest court of final resort in the province; if such court refuses to grant leave the Supreme Court of Canada may grant leave to appeal. The Supreme Court may grant leave to appeal from any judgment whether final or not. Appeals in respect of indictable offences are regulated by the Criminal Code. Appeals from federal courts are regulated by the statute establishing such courts. The judgment of the Supreme Court of Canada in all cases is final and conclusive.

13.—Chief Justice and Judges of the Supreme Court of Canada as at Sept. 1, 1958

(In order of seniority)

Name	Date of Appointment
The Hon. Chief Justice PATRICK KERWIN.....	July 1, 1954 ¹
The Hon. Justice ROBERT TASCHEREAU.....	Feb. 9, 1940
The Hon. Justice I. C. RAND.....	Apr. 22, 1943
The Hon. Justice CHARLES H. LOCKE.....	June 3, 1947
The Hon. Justice JOHN R. CARTWRIGHT.....	Dec. 23, 1949
The Hon. Justice J. H. GERALD FAUTEUX.....	Dec. 23, 1949
The Hon. Justice DOUGLAS CHARLES ABBOTT.....	July 1, 1954
The Hon. Justice RONALD MARTLAND.....	Jan. 15, 1958
The Hon. Justice WILFRED JUDSON.....	Feb. 5, 1958

¹ First appointed as a Judge of the Supreme Court, July 20, 1935.

Exchequer Court.—The Exchequer Court of Canada was first established in 1875 as part of the Supreme Court of Canada but is now a separate court governed by the Exchequer Court Act (R.S.C. 1952, c. 98). The Court consists of a president and four puisne judges who are appointed by the Governor in Council. The president and the puisne judges hold office during good behaviour but may be removed by the Governor General on address of the Senate and the House of Commons. They cease to hold office upon attaining the age of 75 years. The Court sits at Ottawa and also at any other place in Canada where sittings may be fixed by the Court. The jurisdiction of the Court extends to cases where claims are made by or against the Crown in right of Canada. Proceedings against the Crown are taken by petition of right pursuant to the Petition of Right Act (R.S.C. 1952, c. 210).

An appeal lies to the Supreme Court of Canada from any final judgment of the Exchequer Court in which the amount in controversy exceeds \$500; an appeal also lies with leave of the Supreme Court in certain cases where the amount in controversy does not exceed \$500 or where the judgment is not final.

The Exchequer Court also exercises admiralty jurisdiction in Canada. This was first conferred in 1891 by the Admiralty Act (54-55 Vict., c. 29) and is now governed by the Admiralty Act (R.S.C. 1952, c. 1). Under this Statute the Exchequer Court is continued as a Court of Admiralty. The president and puisne judges of the Exchequer Court

exercise admiralty jurisdiction throughout the whole of Canada. In addition, Canada is divided into various admiralty districts; a district judge in admiralty is appointed for each district. Appeals to the Supreme Court of Canada from judgments of the president or the puisne judges are governed by the general appeal provisions in the Exchequer Court Act. Appeals may be taken from a final judgment of a district judge in admiralty either to the Exchequer Court or direct to the Supreme Court of Canada.

Miscellaneous Courts.—*Railway Act.*—The Railway Act, 1903 (R.S.C. 1952, c. 234) established the Board of Railway Commissioners for Canada as a court of record; by the Transport Act, 1938 (R.S.C. 1952, c. 271) the name was changed to the Board of Transport Commissioners for Canada. This Court exercises jurisdiction with respect to railway matters. The Governor in Council is given jurisdiction to vary any order of the Board and an appeal lies from the Board to the Supreme Court of Canada upon a question of jurisdiction or a question of law.

Bankruptcy Act.—By virtue of Sect. 91 (21) of the British North America Act, 1867, Parliament has exclusive legislative jurisdiction in relation to bankruptcy and insolvency. By the Bankruptcy Act (R.S.C. 1952, c. 14) the superior courts of the provinces are constituted bankruptcy courts; original jurisdiction is conferred upon the trial courts and appellate jurisdiction is conferred upon the appeal courts of the provinces.

Income Tax Act.—By the Income Tax Act (R.S.C. 1952, c. 148) an Appeal Board is established consisting of a chairman and not fewer than two or more than four members with jurisdiction over appeals against income tax assessments. A further appeal may be taken to the Exchequer Court.

Provincial and Territorial Judiciaries*

Certain provisions of the British North America Act govern to some extent the provincial judiciaries. Under Sect. 92 (14) the legislature of each province exclusively may make laws in relation to the administration of justice in the province including the constitution, maintenance and organization of provincial courts both of civil and of criminal jurisdiction. Sect. 96 provides that the Governor General shall appoint the judges of the superior, district, and county courts in each province except those of the courts of probate in Nova Scotia and New Brunswick. Sect. 100 provides that the salaries, allowances and pensions of judges of the superior, district and county courts (except the courts of probate in Nova Scotia and New Brunswick) are to be fixed and provided by the Parliament of Canada and these are set out in the Judges Act (R.S.C. 1952, c. 157). Under Sect. 99 the judges of the superior courts hold office during good behaviour but are removable by the Governor General on address of the Senate and House of Commons. The tenure of office of district and county court judges is fixed by the Judges Act as being during good behaviour and their residence within the county or union of counties for which the court is established.

All provinces have minor courts with limited civil and criminal jurisdiction, the judges of which are appointed by provincial authority as, for example, Justices of the Peace, Magistrates and Juvenile Court Judges. Except in Quebec there are County or District Courts of each province with limited jurisdiction varying from \$500 to \$2,500 in amount. Each province has a Superior Court with virtually unlimited jurisdiction variously known as Court of Queen's Bench, Supreme Court, Superior Court, etc. There is also a Court of Appeal in each province.

The Yukon Act and the Northwest Territories Act each provide for a superior court of record in and for the Territory, called the Territorial Court, and consisting of one or more judges appointed by the Governor in Council. The judges of the Territorial Court of the Yukon Territory are ex officio judges of the Territorial Court of the Northwest Territories. The superior courts of adjacent provinces exercise certain concurrent jurisdiction in civil matters. Police magistrates and justices of the peace have jurisdiction in minor civil and criminal cases.

* More detailed information concerning provincial judiciaries is given in the 1954 Year Book, pp. 48-55.

Section 2.—Provincial and Territorial Governments*

In each of the provinces, the Queen is represented by a Lieutenant-Governor appointed by the Governor General in Council. The Lieutenant-Governor acts on the advice and with the assistance of his Ministry or Executive Council which is responsible to the Legislature and resigns office under circumstances similar to those described at p. 62 concerning the Federal Government.

The Legislature of each province is unicameral, consisting of the Lieutenant-Governor and a Legislative Assembly except for the Province of Quebec where there is a Legislative Council as well as a Legislative Assembly.

The Legislative Assembly is elected by the people for a statutory term of five years but may be dissolved within that period by the Lieutenant-Governor on the advice of the Premier of the province.

The source of legislative authority of the Provincial Legislatures is the British North America Act, 1867 (30-31 Vict., c. 3 and amendments). Under Sect. 92 of the Act the Legislature of each province exclusively may make laws in relation to the following matters: amendment of the constitution of the province except as regards the Lieutenant-Governor; direct taxation within the province; borrowing of money on the credit of the province; establishment and tenure of provincial offices and appointment and payment of provincial officers; the management and sale of public lands belonging to the province and of the timber and wood thereon; the establishment, maintenance and management of public and reformatory prisons in and for the province; the establishment, maintenance and management of hospitals, asylums, charities and eleemosynary institutions in and for the province, other than marine hospitals; municipal institutions in the province; shop, saloon, tavern, auctioneer and other licences issued for the raising of provincial or municipal revenue; local works and undertakings other than interprovincial or international lines of ships, railways, canals, telegraphs, etc., or works which, though wholly situated within one province, are declared by the Federal Parliament to be for the general advantage either of Canada or of two or more provinces; the incorporation of companies with provincial objects; the solemnization of marriage in the province; property and civil rights in the province; the administration of justice in the province including the constitution, maintenance and organization of provincial courts both of civil and of criminal jurisdiction including procedure in civil matters in these courts; the imposition of punishment by fine, penalty or imprisonment for enforcing any law of the province relating to any of the aforesaid subjects; generally all matters of a merely local or private nature in the province.

Further, in and for each province the Legislature exclusively may, under Sect. 93, make laws in relation to education subject to certain restrictions relating to the establishment of schools by religious minorities. These powers with similar restrictions were conferred on the more recently admitted provinces on their inclusion as units in the federation.

The Provincial Legislatures may also make laws under Sect. 95 in relation to agriculture and immigration subject to any laws of the Parliament of Canada in relation to these subjects.

Provincial Franchise.—Details regarding qualifications and disqualifications of the franchise are contained in the Elections Act of each province. In general, every person, male or female, at the age of 21 years who is a Canadian citizen or a British subject, who complies with certain residence requirements in the province and the electoral district of polling and who falls under no statutory disqualifications, is entitled to vote. These qualifications apply with modifications to voters in most provinces. The principal exception gives voting privileges to persons in Saskatchewan at the age of 18 and in Alberta and British Columbia at 19 years.

* The information given in Subsections 1 to 9 of this Section is brought up to Sept. 1, 1953. Provincial elections held between that date and the date of going to press will be carried in an Appendix to this volume.

Subsection 1.—Newfoundland

The Government of Newfoundland consists of a Lieutenant-Governor, an Executive Council and a Legislative Assembly. At Sept. 1, 1958, the Honourable Campbell Macpherson was Lieutenant-Governor of the Province. He was commissioned on Dec. 16, 1957.

The Legislative Assembly has 36 members elected for a term of five years. The Legislature elected Oct. 2, 1956, is the 31st in the history of Newfoundland and the 3rd since Confederation.

The Premier receives a salary of \$10,000 and the other Cabinet Ministers \$9,000 per annum plus a sessional indemnity of \$3,333.33. Each member of the House of Assembly receives a sessional indemnity of \$3,333.33 plus travelling and expense allowance of \$1,666.66. An additional allowance of \$3,000 is made to the Leader of the Opposition.

14.—Legislatures of Newfoundland since Confederation and Ministry as at Sept. 1, 1958

Legislatures 1949-58

Date of Election	Legislature	Number of Sessions	Date of First Opening	Date of Dissolution
May 27, 1949	1st.....	4	July 13, 1949	Nov. 3, 1951
Nov. 26, 1951	2nd.....	7	Mar. 12, 1952	Sept. 10, 1956
Oct. 2, 1956	3rd.....	1	Mar. 20, 1957	1

¹ Life of Legislature not expired at Sept. 1, 1958.

First Ministry

(Party standing at latest General Election, Oct. 2, 1956: 32 Liberals and 4 Progressive Conservatives.)

NOTE.—Date of appointment does not necessarily mean that the Minister was sworn in on date given.

Office	Name	Date of First Appointment	Date of Present Appointment
Premier and Minister of Economic Development.....	Hon. J. R. SMALLWOOD.....	Apr. 1, 1949	Apr. 1, 1949
Attorney General.....	Hon. L. R. CURTIS.....	Apr. 1, 1949	Apr. 1, 1949
Minister of Mines and Resources.....	Hon. W. J. KEOUGH.....	July 29, 1949	May 1, 1957
Minister of Labour.....	Hon. C. H. BALLAM.....	Apr. 4, 1950	Apr. 4, 1950
Minister of Public Welfare.....	Hon. S. J. HEFFERTON.....	July 29, 1949	Apr. 10, 1955
Minister of Finance.....	Hon. E. S. SPENCER.....	July 29, 1949	May 1, 1957
Minister of Public Works.....	Hon. J. R. CHALKER.....	Apr. 4, 1950	May 1, 1957
Minister of Education.....	Hon. F. W. ROWE.....	May 21, 1952	May 1, 1957
Minister without Portfolio.....	Hon. P. J. LEWIS.....	Dec. 15, 1951	Dec. 15, 1951
Minister of Provincial Affairs.....	Hon. MYLES P. MURRAY.....	Dec. 15, 1951	Dec. 15, 1951
Solicitor General.....	Hon. MYLES P. MURRAY.....	Dec. 15, 1951	Apr. 10, 1955
Minister of Highways.....	Hon. G. J. POWER.....	Dec. 15, 1951	May 1, 1957
Minister of Fisheries.....	Hon. J. T. CHEESEMAN.....	May 1, 1957	May 1, 1957
Minister of Municipal Affairs and Supply.....	Hon. B. J. ABBOTT.....	May 1, 1957	May 1, 1957
Minister of Health.....	Hon. J. M. McGRATH.....	May 1, 1957	May 1, 1957

Subsection 2.—Prince Edward Island

The Government of Prince Edward Island consists of a Lieutenant-Governor, an Executive Council and a Legislative Assembly. The Honourable F. Walter Hyndman, Lieutenant-Governor of the Province at Sept. 1, 1958, was commissioned to office on Mar. 31, 1958. Lieutenant-Governors since Confederation are cited in the 1951 Year Book, p. 86, and the 1957-58 edition, p. 62.

The General Assembly elected May 25, 1955, is the 48th in the history of Prince Edward Island Legislatures and the 23rd since Confederation. It has 30 members from 15 electoral districts who serve for a statutory term of five years. One-half of the Members

of the Legislative Assembly are elected on a property vote. Each district elects one Councillor (elected on a property vote) and one Assembly member (elected on a general franchise vote).

The annual salary of the Premier is \$6,000 and that of a Cabinet Minister \$4,000, except for the Minister of Education and the Minister of Health each of whom receives \$3,000. Every Member of the Assembly is paid the sum of \$1,450 for each session attended by him and an additional amount of \$500 tax free as indemnity for expenses incurred. The Speaker is paid an additional sum of \$400 and a further additional amount of \$200 tax free as an indemnity. The Leader of the Opposition is paid an additional sum of \$800 and a further additional amount of \$200 tax free for expenses incurred by him in performance of official duties.

15.—Legislatures and Premiers of Prince Edward Island 1935-58 and Ministry as at Sept. 1, 1958

Legislatures 1935-58¹

Date of Election	Legislature	Number of Sessions	Date of First Opening	Date of Dissolution
July 23, 1935	18th.....	5	Sept. 25, 1935	Apr. 21, 1939
May 18, 1939	19th.....	4	Mar. 20, 1940	Aug. 20, 1943
Sept. 15, 1943	20th.....	4	Feb. 15, 1944	Oct. 27, 1947
Dec. 11, 1947	21st.....	5	Feb. 24, 1948	Mar. 30, 1951
Apr. 26, 1951	22nd.....	6	Oct. 23, 1951	Apr. 27, 1955
May 25, 1955	23rd.....	2	Feb. 2, 1956	2

¹ The Ministries from 1935-58 were: 19th Ministry sworn in Oct. 14, 1933, under the leadership of Hon. W. J. P. MacMillan; 20th Ministry sworn in Aug. 15, 1935, under the leadership of Hon. W. M. Leas; 21st Ministry sworn in Jan. 14, 1936, under the leadership of Hon. T. A. Campbell; 22nd Ministry sworn in May 11, 1943, under the leadership of Hon. J. Walter Jones; 23rd Ministry sworn in May 25, 1953, under the leadership of Hon. A. W. Matheson.

² Life of Legislature not expired at Sept. 1, 1958.

Twenty-Third Ministry

(Party standing at latest General Election, May 25, 1955: 27 Liberals and 3 Progressive Conservatives.)

NOTE.—Ministers are shown at date of original appointment as a Minister and at date of appointment to present portfolio, despite the formation of a new Ministry consequent upon the appointment of a new Premier. Date of appointment does not necessarily mean that the Minister was sworn in on date given.

Office	Name	Date of First Appointment	Date of Present Appointment
Premier, Attorney and Advocate General, President of the Executive Council, and Minister of Welfare and of Labour.....	HON. ALEXANDER W. MATHESON..	May 11, 1943	May 25, 1953 June 15, 1955 Mar. 6, 1958
Minister of Industry and Natural Resources and of Fisheries.....	HON. DOUGALD MAC KINNON.....	Sept. 16, 1939	June 15, 1955
Minister of Agriculture.....	HON. EUGENE CULLEN.....	Apr. 16, 1949	June 15, 1955
Minister of Education.....	HON. KEIR CLARK.....	June 16, 1951	June 15, 1955
Provincial Secretary and Treasurer.....	HON. B. EARLE MACDONALD.....	May 25, 1953	June 15, 1955
Minister of Highways and Public Works....	HON. J. GEORGE MAC KAY.....	Jan. 18, 1955	June 15, 1955 Mar. 6, 1958
Minister of Health.....	HON. M. LORNE BONNELL.....	June 15, 1955	June 15, 1955
Minister without Portfolio.....	HON. EDWARD P. FOLEY.....	June 10, 1954	June 15, 1955
Minister without Portfolio.....	HON. F. W. PHILLIPS.....	Apr. 3, 1956	Mar. 6, 1958

Subsection 3.—Nova Scotia

The Government of the Province of Nova Scotia has a Lieutenant-Governor, an Executive Council and a House of Assembly. Major General the Honourable E. C. Plow, Lieutenant-Governor at Sept. 1, 1958, was commissioned to office Jan. 15, 1958. Lieutenant-Governors since Confederation are cited in the 1951 Year Book, p. 87, and the 1957-58 edition, p. 63.

The Legislature has 43 members elected for five years, the maximum duration of its existence. The Legislature elected Oct. 30, 1956, was the 46th in Nova Scotia's history and the 23rd since Confederation.

The Premier of the Province receives a salary of \$12,000 per annum and each Cabinet Minister a salary of \$10,000 per annum. Each Member of the House of Assembly receives a sessional indemnity of \$2,400 and an allowance of \$1,200 for expenses incidental to the discharge of his duties. The Leader of the Opposition receives an allowance of \$3,000 in addition to his sessional indemnity.

16.—Legislatures and Premiers of Nova Scotia 1933-58 and Ministry as at Sept. 1, 1958

Legislatures 1933-58¹

Date of Election	Legislature	Number of Sessions	Date of First Opening	Date of Dissolution
Aug. 22, 1933	17th.....	4	Mar. 1, 1934	May 20, 1937
June 29, 1937	18th.....	4	Mar. 1, 1938	Sept. 19, 1941
Oct. 28, 1941	19th.....	4	Feb. 19, 1942	Sept. 12, 1945
Oct. 23, 1945	20th.....	4	Mar. 14, 1946	Apr. 27, 1949
June 9, 1949	21st.....	4	Mar. 21, 1950	Apr. 14, 1953
May 26, 1953	22nd.....	3	Feb. 24, 1954	Sept. 20, 1956
Oct. 30, 1956	23rd.....	2	Feb. 27, 1957	²

¹ The Ministries from 1933-58 were: 12th Ministry sworn in Sept. 5, 1933, under the leadership of Hon. Angus L. Macdonald; 13th Ministry sworn in July 10, 1940, under the leadership of Hon. A. S. MacMillan; 14th Ministry sworn in Sept. 8, 1945, under the leadership of Hon. Angus L. Macdonald; 15th Ministry sworn in Apr. 13, 1954, under the leadership of Hon. Harold Connolly; 16th Ministry sworn in Sept. 30, 1954, under the leadership of Hon. Henry D. Hicks; 17th Ministry sworn in Nov. 20, 1956, under the leadership of Hon. Robert L. Stanfield. ² Life of Legislature not expired at Sept. 1, 1958.

Seventeenth Ministry

(Party standing at latest General Election, Oct. 30, 1956: 24 Progressive Conservatives, 18 Liberals, 1 Co-operative Commonwealth Federation.)

NOTE.—Date of appointment does not necessarily mean that the Minister was sworn in on date given.

Office	Name	Date of First Appointment	Date of Present Appointment
Premier, Provincial Treasurer, Chairman of the Nova Scotia Power Commission....	Hon. R. L. STANFIELD.....	Nov. 20, 1956	Nov. 20, 1956
Minister of Highways and Provincial Secretary.....	Hon. G. I. SMITH.....	Nov. 20, 1956	Nov. 20, 1956
Attorney General and Minister of Public Health.....	Hon. R. A. DONAHOE.....	Nov. 20, 1956	Nov. 20, 1956
Minister of Lands and Forests and Minister of Municipal Affairs.....	Hon. R. C. LEVY.....	Nov. 20, 1956	Nov. 20, 1956
Minister of Public Works and Minister of Labour.....	Hon. S. T. PYKE.....	Nov. 20, 1956	Nov. 20, 1956
Minister of Agriculture and Marketing.....	Hon. E. D. HALIBURTON.....	Nov. 20, 1956	Nov. 20, 1956
Minister of Mines and Minister of Trade and Industry.....	Hon. E. A. MANSON.....	Nov. 20, 1956	Nov. 20, 1956
Minister without Portfolio.....	Hon. N. L. FERGUSON.....	Nov. 20, 1956	Nov. 20, 1956
Minister of Education and Minister of Public Welfare.....	Hon. M. S. LEONARD.....	Aug. 3, 1957	Aug. 3, 1957

Subsection 4.—New Brunswick

The Government of New Brunswick has a Lieutenant-Governor, an Executive Council and a House of Assembly. The Honourable J. Leonard O'Brien, Lieutenant-Governor at Sept. 1, 1958, was commissioned to office June 6, 1958. Lieutenant-Governors since Confederation are cited in the 1951 Year Book, p. 89.

The Legislature elected June 18, 1956, is the 43rd in New Brunswick's history and the 16th since Confederation. It has 52 members who are elected for a statutory term of five years.

The Premier receives \$5,000 per annum in addition to the salary for any other portfolio he may hold. The salary of each Cabinet Minister is \$7,500, the amount paid as indemnity to each Member of the House of Assembly is \$2,400, plus an additional \$1,200 allowance for expenses. The Leader of the Opposition receives an additional \$3,000. An allowance of \$1,000 in addition to the regular indemnity is made to the Speaker.

17.—Legislatures and Premiers of New Brunswick 1935-58 and Ministry as at Sept. 1, 1958

Legislatures 1935-58¹

Date of Election	Legislature	Number of Sessions	Date of First Opening	Date of Dissolution
June 27, 1935	11th.....	4	Mar. 5, 1936	Oct. 26, 1939
Nov. 20, 1939	12th.....	5	Apr. 4, 1940	July 10, 1944
Aug. 28, 1944	13th.....	4	Feb. 20, 1945	May 18, 1948
June 28, 1948	14th.....	4	Mar. 8, 1949	July 16, 1952
Sept. 22, 1952	15th.....	4	Feb. 12, 1953	Apr. 17, 1956
June 18, 1956	16th.....	2	Feb. 21, 1957	2

¹ The Ministries from 1935-58 were: 20th Ministry sworn in July 16, 1935, under the leadership of Hon. A. A. Dymally; 21st Ministry sworn in Mar. 13, 1940, under the leadership of Hon. J. B. McNair; 22nd Ministry sworn in Oct. 8, 1952, under the leadership of Hon. H. J. Flemming.

² Life of Legislature not expired at Sept. 1, 1958.

Twenty-Second Ministry

(Party standing at latest General Election, June 18, 1956: 37 Conservatives and 15 Liberals.)

NOTE.—Date of appointment does not necessarily mean that the Minister was sworn in on date given.

Office	Name	Date of First Appointment	Date of Present Appointment
Premier and Minister of Municipal Affairs...	Hon. HUGH JOHN FLEMMING.....	Oct. 8, 1952	{Oct. 1, 1952 Aug. 1, 1958
Attorney General.....	Hon. WILLIAM J. WEST.....	Oct. 8, 1952	Oct. 8, 1952
Provincial Secretary-Treasurer.....	Hon. D. D. PATTERSON.....	Oct. 8, 1952	Oct. 8, 1952
Minister of Agriculture.....	Hon. C. B. SHEERWOOD.....	Oct. 8, 1952	Oct. 8, 1952
Minister of Health and Social Services.....	Hon. J. F. MCINERNEY.....	Oct. 8, 1952	Oct. 8, 1952
Minister of Lands and Mines.....	Hon. N. B. BUCHANAN.....	Oct. 8, 1952	Oct. 8, 1952
Minister of Education.....	Hon. CLAUDE D. TAYLOR.....	Oct. 8, 1952	Oct. 8, 1952
Minister of Labour.....	Hon. ARTHUR E. SKALING.....	Oct. 8, 1952	Oct. 8, 1952
Minister of Industry and Development.....	Hon. J. ROGER PICHETTE.....	Oct. 8, 1952	Oct. 8, 1952
Minister without Portfolio and Chairman of the New Brunswick Electric Power Commission.....	Hon. EDGAR FOURNIER.....	Oct. 8, 1952	Oct. 8, 1952
Minister without Portfolio and President of the Executive Council.....	Hon. J. W. BOURGEOIS.....	Apr. 5, 1957	Apr. 5, 1957
Minister of Public Works.....	Hon. J. STEWART BROOKS.....	Aug. 1, 1958	Aug. 1, 1958

Subsection 5.—Quebec

The Government of Quebec consists of a Lieutenant-Governor, an Executive Council, and a bicameral legislature—the Legislative Council and the Legislative Assembly. The Honourable Onesime Gagnon, Lieutenant-Governor at Sept. 1, 1958, was commissioned to office Feb. 14, 1958. Lieutenant-Governors since Confederation are cited in the 1951 Year Book, p. 90, and in the 1957-58 edition, p. 64.

The Legislative Council has 24 members nominated for life by the Lieutenant-Governor in Council. The Legislative Assembly has 93 elected members and, like the Legislative Council, has the power to bring forward Bills relating to civil and administrative matters and to the amendment or repeal of laws that already exist. A Bill to be approved by the Lieutenant-Governor must have received the assent of both Houses. Only the Legislative Assembly can bring forward a Bill requiring the expenditure of public money. The maximum life of a Legislature is five years.

Salaries and allowances of the Premier, Members of the Executive Council, Legislative Council and Legislative Assembly are fixed according to R.S.Q. 1941, c. 7 and R.S.Q. 1941, c. 4 as amended by 1-2 Eliz. II, c. 38 and 5-6 Eliz. II, c. 51. All Members of Legislative Assembly and Legislative Council receive \$5,000 per annum as salary and \$2,000 by way of allowances; in addition, the Premier receives \$10,000 as salary, \$4,000 allowances and \$2,000 for lodging allowance; Ministers with Portfolio an additional \$8,000 as salary and \$2,000 allowances; Ministers without Portfolio an additional \$5,000 salary and \$2,000 allowances; the Leader of the Opposition in the Legislative Assembly \$6,000 as salary, \$2,000 allowances and \$2,000 for lodging allowance; and the Leader of the Government in the Legislative Council and the Leader of the Opposition in the Legislative Council each receives \$7,000 as salary, \$2,000 allowances and \$3,000 for office allowances.

18.—Legislatures and Premiers of Quebec 1935-58 and the Ministry and Members of the Legislative Council as at Sept. 1, 1958

Legislatures 1935-58¹

Date of Election	Legislature	Number of Sessions	Date of First Opening	Date of Dissolution
Nov. 25, 1935	19th.....	1	Mar. 24, 1936	June 11, 1936
Aug. 17, 1936	20th.....	4	Oct. 7, 1936	Sept. 23, 1939
Oct. 25, 1939	21st.....	5	Feb. 20, 1940	June 29, 1944
Aug. 8, 1944	22nd.....	4	Feb. 7, 1945	June 9, 1948
July 28, 1948	23rd.....	4	Jan. 19, 1949	May 28, 1952
July 16, 1952	24th.....	4	Nov. 12, 1952	Apr. 25, 1956
June 20, 1956	25th.....	2	Nov. 14, 1956	2

¹ The Ministries from 1935-58 were: 16th Ministry sworn in July 8, 1920, under the leadership of Hon. L. A. Taschereau; 17th Ministry sworn in June 11, 1936, under the leadership of Hon. A. Godbout; 18th Ministry sworn in Aug. 24, 1936, under the leadership of Hon. Maurice L. Duplessis; 19th Ministry sworn in Nov. 10, 1939, under the leadership of Hon. A. Godbout; 20th Ministry sworn in Aug. 30, 1944, under the leadership of Hon. Maurice L. Duplessis.

² Life of Legislature not expired at Sept. 1, 1958.

Twentieth Ministry

(Party standing at latest General Election, June 20, 1956: 72 Union Nationale, 20 Liberals, 1 Independent.)

NOTE.—See headnote to Table 15.

Office ¹	Name	Date of First Appointment	Date of Present Appointment
Premier and President of the Executive Council.....	Hon. MAURICE L. DUPLESSIS.....	Aug. 24, 1936	Aug. 30, 1944
Minister of Finance.....	Hon. JOHN S. BOURQUE.....	Aug. 24, 1936	Apr. 30, 1958
Minister of Lands and Forests.....	Hon. JEAN J. BERTRAND.....	Apr. 30, 1958	Apr. 30, 1958
Minister of Hydraulic Resources.....	Hon. DANIEL JOHNSON.....	Apr. 30, 1958	Apr. 30, 1958
Minister of Colonization.....	Hon. J. D. BÉGIN.....	Aug. 30, 1944	Aug. 30, 1944
Minister without Portfolio.....	Hon. ANTONIO ELIE.....	Aug. 24, 1936	Aug. 30, 1944
Minister of Agriculture.....	Hon. LAURENT BARRÉ.....	Aug. 30, 1944	Aug. 30, 1944
Minister of Roads.....	Hon. ANTONIO TALBOT.....	Aug. 30, 1944	Aug. 30, 1944
Minister of Labour.....	Hon. ANTONIO BARRETTÉ.....	Aug. 30, 1944	Aug. 30, 1944
Minister of Game and Fisheries.....	Hon. CAMILLE POULIOT.....	Aug. 30, 1944	Aug. 30, 1944
Minister of Public Works.....	Hon. ROMéo LORRAIN.....	Aug. 30, 1944	Aug. 30, 1944
Minister of Social Welfare and of Youth.....	Hon. JEAN-PAUL SAUVÉ.....	Sept. 18, 1946	Sept. 18, 1946
Minister of Trade and Commerce.....	Hon. PAUL BEAULIEU.....	Aug. 30, 1944	Aug. 30, 1944
Provincial Secretary.....	Hon. YVES PRÉVOST.....	Sept. 26, 1956	Sept. 26, 1956
Minister of Transportation and Communications and Solicitor General.....	Hon. ANTOINE RIVARD.....	Dec. 15, 1948	Apr. 12, 1950
Minister of Municipal Affairs.....	Hon. PAUL DOZOIS.....	Sept. 26, 1956	Sept. 26, 1956
Minister of Mines.....	Hon. W. M. COTTINGHAM.....	June 2, 1954	June 2, 1954
Minister without Portfolio.....	Hon. ARTHUR LECLERC.....	July 23, 1952	July 23, 1952
Minister without Portfolio.....	Hon. WILFRID LABÉ.....	July 23, 1952	July 23, 1952
Minister without Portfolio.....	Hon. JACQUES MIQUELON.....	July 23, 1952	July 23, 1952

¹ Ministry of Health vacant at Sept. 1, 1958.

Legislative Council

(According to seniority)

Name	Division ¹	Date of Appointment
R. O. GROTHÉ.....	De Salaberry.....	Dec. 23, 1927
JACOB NICOL.....	Bedford.....	Sept. 16, 1929
VICTOR MARCHAND.....	Rigaud.....	Apr. 15, 1932
HECTOR LAFERTÉ.....	Stadacona.....	July 23, 1934
EMILE MOREAU.....	Lauzon.....	June 6, 1935
J. L. BARIBEAU (Speaker).....	Shawinigan.....	Jan. 14, 1938
PHILIPPE BRAIS.....	Grandville.....	Feb. 16, 1940
JULES BRILLANT.....	Golfe.....	Jan. 14, 1942
FRANK L. CONNORS.....	Mille Isles.....	Jan. 14, 1942
ROBERT R. NESS.....	Inkerman.....	Jan. 14, 1942
FÉLIX MESSIER.....	De Lanaudière.....	Feb. 12, 1942
EDOUARD ASSELIN.....	Wallington.....	Jan. 23, 1946
GEO. B. FOSTER.....	Victoria.....	Aug. 22, 1946
GÉRALD MARTNEAU.....	Les Laurentides.....	Aug. 22, 1946
J. OLIER RENAUD.....	Alma.....	Aug. 22, 1946
PATRICE TARDIF.....	De la Vallière.....	July 20, 1952
JOSEPH BOULANGER.....	De la Durantaye.....	Oct. 8, 1952
EDOUARD MASSON.....	Repentigny.....	Mar. 12, 1953
ALBERT BOUCHARD.....	La Salle.....	Nov. 24, 1954
JEAN BARRETTE.....	Sorel.....	Oct. 19, 1955
EMILE LESAGE.....	Montarville.....	Aug. 1, 1956

¹ The Divisions of Rougemont, Kennebec, and DeLorimier were unrepresented at Sept. 1, 1958.

Subsection 6.—Ontario

The Government of Ontario consists of a Lieutenant-Governor, an Executive Council and a House of Assembly. The Honourable Justice John Keiller Mackay, Lieutenant-Governor of the province at Sept. 1, 1958, was commissioned to office Dec. 30, 1957. Lieutenant-Governors since Confederation are cited in the 1951 Year Book, p. 92, and in the 1957-58 edition, p. 66.

The House of Assembly, the single-chamber Legislature of the province, is composed of 98 members elected for a statutory term of five years.

Besides the regular Departments of Government, the Niagara Parks Commission, the Ontario Municipal Board, The Hydro-Electric Power Commission of Ontario, the Ontario-St. Lawrence Development Commission, the Ontario Northland Transportation Commission, the Liquor Control Board, the Liquor Licence Board, the Hospital Services Commission and The Water Resources Commission have been created.

Under the provisions of the Legislative Assembly Act (R.S.O. 1950, c. 202, with amendments) each Member of the Assembly is paid an annual indemnity of \$3,600 and an allowance for expenses of \$1,800. In addition, the Speaker receives a special indemnity at the annual rate of \$3,000 and an expense allowance of \$2,000; the Chairman of the Committee of the Whole a special indemnity at the annual rate of \$1,000; and the Leader of the Opposition a special indemnity of \$3,000 and an annual allowance of \$2,000 for expenses. Each Member of the Cabinet having charge of a Department receives the ordinary indemnity as a Member of the Legislature in addition to his salary as a Minister of the Crown. The salary provided in the Executive Council Act for the Premier is \$14,000 and for a Cabinet Minister having charge of a Department \$10,000. A Minister without Portfolio receives only the indemnity and expense allowance of a Member of the Legislature. By the 1956 amendment, every Minister of the Crown in charge of a Department, the Minister of the Crown who is a member of The Hydro-Electric Power Commission of Ontario, and the Leader of the Opposition receives a representation allowance of \$2,000 per annum.

19.—Legislatures and Premiers of Ontario 1934-58 and Ministry as at Sept. 1, 1958

Legislatures 1934-58¹

Date of Election	Legislature	Number of Sessions	Date of First Opening	Date of Dissolution
June 19, 1934	19th.....	3	Feb. 20, 1935	Apr. 9, 1936
Oct. 6, 1937	20th.....	3	Dec. 1, 1937	June 30, 1943
Aug. 4, 1943	21st.....	2	Feb. 22, 1944	Mar. 24, 1945
June 4, 1945	22nd.....	4	July 16, 1945	Apr. 27, 1948
June 7, 1948	23rd.....	4	Feb. 10, 1949	Oct. 6, 1951
Nov. 22, 1951	24th.....	5	Feb. 21, 1952	May 2, 1955
June 9, 1955	25th.....	2	Sept. 8, 1955	

¹ The Ministries from 1934-58 were: 11th Ministry sworn in July 10, 1934, under the leadership of Hon. M. F. Hepburn; 12th Ministry sworn in Oct. 21, 1942, under the leadership of Hon. G. D. Conant; 13th Ministry sworn in May 18, 1943, under the leadership of Hon. H. C. Nixon; 14th Ministry sworn in Aug. 17, 1943, under the leadership of Hon. George A. Drew; 15th Ministry sworn in Oct. 10, 1948, under the leadership of Hon. Thomas L. Kennedy; 16th Ministry sworn in May 4, 1949, under the leadership of Hon. Leslie M. Frost. ² Life of Legislature not expired at Sept. 1, 1958.

Sixteenth Ministry

(Party standing at latest General Election, June 9, 1955: 84 Progressive Conservatives, 11 Liberals and 3 Co-operative Commonwealth Federation.)

NOTE.—See headnote to Table 15.

Office	Name	Date of First Appointment	Date of Present Appointment
Prime Minister and President of the Council.	Hon. LESLIE M. FROST.....	Aug. 17, 1943	May 4, 1949
Secretary and Registrar.....	Hon. GEORGE H. DUNBAR.....	Aug. 17, 1943	Aug. 17, 1955
Minister of Labour.....	Hon. CHARLES DALEY.....	Aug. 17, 1943	Aug. 17, 1943
Minister of Agriculture.....	Hon. WM. A. GOODFELLOW.....	Jan. 7, 1946	Aug. 1, 1956
Minister of Public Welfare.....	Hon. LOUIS P. CECILE.....	Sept. 17, 1948	Aug. 17, 1955
Minister of Health.....	Hon. MACKINNON PHILLIPS.....	Aug. 8, 1950	Aug. 8, 1950
Minister of Education.....	Hon. WM. J. DUNLOP.....	Oct. 2, 1951	Oct. 2, 1951
Minister of Municipal Affairs.....	Hon. WM. K. WARRENDER.....	Jan. 20, 1953	Nov. 1, 1956
Provincial Treasurer and Minister of Public Works.....	Hon. JAMES N. ALLAN.....	Jan. 5, 1955	Apr. 28, 1958
Minister of Planning and Development.....	Hon. WM. M. NICKLE.....	Jan. 20, 1955	May 14, 1958
Attorney-General.....	Hon. A. KELSO ROBERTS.....	Aug. 17, 1955	Aug. 17, 1955
Minister of Travel and Publicity.....	Hon. BRYAN L. CATHCART.....	Aug. 17, 1955	Aug. 17, 1955
Minister of Reform Institutions.....	Hon. THOS. RAY CONNELL.....	Nov. 1, 1956	Apr. 28, 1958
Minister of Transport.....	Hon. MATTHEW B. DYMOND.....	July 18, 1957	Apr. 28, 1958
Minister of Mines and Minister of Lands and Forests.....	Hon. JOS. WILFRID SPOONER.....	July 18, 1957	July 18, 1957
Minister of Highways.....	Hon. FREDERICK M. CASS.....	Apr. 28, 1958	July 23, 1958
Minister without Portfolio.....	Hon. JOHN YAREMKO.....	Apr. 28, 1958	Apr. 28, 1958
Minister without Portfolio and 2nd Vice-Chairman, Hydro-Electric Power Commission.....	Hon. ROBERT W. MACAULAY.....	May 26, 1958	May 26, 1958

Subsection 7.—Manitoba

Besides a Lieutenant-Governor, Manitoba has an Executive Council composed of 10 members and a Legislative Assembly of 57 members elected for a statutory term of five years. The Honourable John Stewart McDiarmid, Lieutenant-Governor of the Province at Sept. 1, 1958, was commissioned to office Aug. 1, 1953. Lieutenant-Governors since Confederation are cited in the 1951 Year Book, p. 94.

The Premier of the Province is paid a salary of \$10,000 per annum and each of the other Members of the Cabinet \$8,000. Members of the Legislature are each paid an indemnity of \$2,000 and an expense allowance of \$1,000. The Leader of the Opposition is paid an additional amount of \$2,500 and the Speaker of the Legislature an additional amount of \$2,500.

20.—Legislatures and Premiers of Manitoba 1932-58 and Ministry as at Sept. 1, 1958

Legislatures 1932-58¹

Date of Election	Legislature	Number of Sessions	Date of First Opening	Date of Dissolution
June 16, 1932	19th.....	4	Feb. 14, 1933	June 12, 1936
July 27, 1936	20th.....	5	Feb. 18, 1937	Mar. 13, 1941
Apr. 22, 1941	21st.....	5	Dec. 9, 1941	Sept. 8, 1945
Oct. 15, 1945	22nd.....	4	Feb. 19, 1946	Sept. 29, 1949
Nov. 10, 1949	23rd.....	7	Feb. 14, 1950	Apr. 23, 1953
June 8, 1953	24th.....	5	Feb. 2, 1954	Apr. 30, 1958
June 16, 1958	25th.....	2	2	2

¹ The Ministries from 1932-58 were: 12th Ministry sworn in Aug. 8, 1922, under the leadership of Hon. J. Bracken; 13th Ministry sworn in Jan. 14, 1943, under the leadership of Hon. Stuart S. Garson; 14th Ministry sworn in Nov. 13, 1949, under the leadership of Hon. D. L. Campbell; 15th Ministry sworn in June 30, 1958, under the leadership of Hon. Dufferin Roblin.

² Legislature not yet in session at Sept. 1, 1958.

Fifteenth Ministry

(Party standing at latest General Election, June 16, 1958: 26 Progressive Conservatives, 19 Liberal Progressives, 11 Co-operative Commonwealth Federation and 1 Independent.)

Office	Name	Date of First Appointment	Date of Present Appointment
Premier, President of the Council, Minister of Dominion-Provincial Relations and Acting Provincial Treasurer.....	HON. DUFFERIN ROBLIN.....	June 30, 1958	June 30, 1958
Minister of Agriculture and Immigration and Acting Minister of Public Works.....	HON. ERRICK F. WILLIS.....	Nov. 2, 1940 ¹	June 30, 1958
Minister of Mines and Natural Resources and Acting Minister of Industry and Commerce.	HON. E. GURNEY EVANS.....	June 30, 1958	June 30, 1958
Minister of Education and Minister of the Legislative Library.....	HON. STEWART E. McLEAN.....	June 30, 1958	June 30, 1958
Attorney General.....	HON. STERLING R. LYON.....	June 30, 1958	June 30, 1958
Minister of Health and Public Welfare.....	HON. GEORGE JOHNSON.....	June 30, 1958	June 30, 1958
Minister of Labour and Acting Minister of Municipal Affairs.....	HON. JOHN W. M. THOMPSON.....	June 30, 1958	June 30, 1958
Provincial Secretary.....	HON. MARCEL BOULIC.....	June 30, 1958	June 30, 1958
Minister of Public Utilities.....	HON. JOHN CARROLL.....	June 30, 1958	June 30, 1958

¹ Coalition appointment.

Subsection 8.—Saskatchewan

The Government of the Province of Saskatchewan consists of a Lieutenant-Governor, an Executive Council and a Legislative Assembly. The Honourable F. L. Bastedo, Lieutenant-Governor at Sept. 1, 1958, was commissioned to office Jan. 27, 1958. Lieutenant-Governors since Confederation are cited in the 1951 Year Book, p. 95, and in the 1957-58 Year Book, p. 68.

The statutory number of members of the Legislative Assembly is 53, elected for a maximum term of five years.

As of Apr. 1, 1958, the Premier receives \$9,500 and each Cabinet Minister \$8,000 annually in addition to a sessional indemnity. The Leader of the Opposition receives \$5,000, the Speaker \$2,500 and the Deputy Speaker \$1,500. The sessional indemnity of a Member of the Legislature is \$3,200 together with an expense allowance of \$1,600. Members for the three northernmost constituencies of Cumberland, Athabasca and Meadow Lake each receive a \$3,500 sessional indemnity and a \$1,750 expense allowance.

21.—Legislatures and Premiers of Saskatchewan 1934-58 and Ministry as at Sept. 1, 1958**Legislatures 1934-58¹**

Date of Election	Legislature	Number of Sessions	Date of First Opening	Date of Dissolution
June 10, 1934	8th.....	4	Nov. 15, 1934	May 14, 1938
June 8, 1938	9th.....	6	Jan. 19, 1939	May 10, 1944
June 15, 1944	10th.....	5	Oct. 19, 1944	May 19, 1948
June 24, 1948	11th.....	5	Feb. 10, 1949	May 7, 1952
June 11, 1952	12th.....	4	Feb. 12, 1953	Apr. 25, 1956
June 20, 1956	13th.....	2	Feb. 14, 1957	2

¹ The Ministries from 1934-58 were: 6th Ministry sworn in July 19, 1934, under the leadership of Hon. J. G. Gardiner; 7th Ministry sworn in Nov. 1, 1935, under the leadership of Hon. W. J. Patterson; 8th Ministry sworn in July 10, 1944, under the leadership of Hon. T. C. Douglas. ² Life of Legislature not expired at Sept. 1, 1958.

Eighth Ministry

(Party standing at latest General Election, June 20, 1956: 36 Co-operative Commonwealth Federation, 14 Liberals and 3 Social Credit.)

NOTE.—See headnote to Table 15.

Office	Name	Date of First Appointment	Date of Present Appointment
Premier, President of the Council and Minister of Co-operation and Co-operative Development.....	Hon. T. C. DOUGLAS.....	July 10, 1944	(July 10, 1944 Nov. 14, 1949)
Provincial Treasurer.....	Hon. C. M. FINES.....	July 10, 1944	July 10, 1944
Minister of Mineral Resources.....	Hon. J. H. BROCKELBANK.....	July 10, 1944	Apr. 1, 1953
Minister of Highways and Transportation.....	Hon. J. T. DOUGLAS.....	July 10, 1944	July 10, 1944
Minister of Education.....	Hon. W. S. LLOYD.....	July 10, 1944	July 10, 1944
Minister of Municipal Affairs.....	Hon. L. F. MCINTOSH.....	July 10, 1944	Aug. 4, 1948
Minister of Labour and Minister of Telephones.....	Hon. C. C. WILLIAMS.....	July 10, 1944	July 10, 1944 July 27, 1956
Minister of Agriculture.....	Hon. I. C. NOLLET.....	Feb. 26, 1945	Feb. 26, 1945
Minister of Social Welfare and Rehabilitation	Hon. T. J. BENTLEY.....	Nov. 14, 1949	July 27, 1956
Minister of Natural Resources.....	Hon. A. G. KUZIAK.....	Oct. 24, 1952	July 27, 1956
Attorney General and Provincial Secretary..	Hon. R. A. WALKER.....	July 27, 1956	July 27, 1956 Aug. 30, 1957
Minister of Travel and Information.....	Hon. R. BROWN.....	July 27, 1956	July 27, 1956 Apr. 1, 1957
Minister of Public Health.....	Hon. J. W. EBB.....	July 27, 1956	July 27, 1956
Minister of Public Works.....	Hon. C. G. WILLIS.....	Aug. 31, 1956	Aug. 31, 1956
Minister without Portfolio.....	Hon. J. H. STURDY.....	July 10, 1944	July 27, 1956

Subsection 9.—Alberta

The Government of the Province of Alberta is composed of the Lieutenant-Governor, the Executive Council and the Legislative Assembly. The Honourable Dr. John J. Bowlen, Lieutenant-Governor at Sept. 1, 1958, was commissioned to office Feb. 1, 1950. Lieutenant-Governors since Confederation are cited in the 1951 Year Book, p. 96.

There are 61 members of the Legislative Assembly who are elected for a maximum period of five years.

The salary of the Premier is \$13,000 and of a Cabinet Minister \$10,000. Special allowances are paid as follows: the Speaker \$2,500; the Deputy Speaker \$1,500; and the Leader of the Opposition \$2,500. The sessional indemnity for each Member of the Legislative Assembly is \$2,400, plus an expense allowance of \$1,200, plus a subsistence allowance (for Members residing outside Edmonton) of \$15 for each day during the session that a member is necessarily absent from his permanent place of residence.

22.—Legislatures and Premiers of Alberta 1935-58 and Ministry as at Sept. 1, 1958

Legislatures 1935-58¹

Date of Election	Legislature	Number of Sessions	Date of First Opening	Date of Dissolution
Aug. 22, 1935	8th.....	9	Feb. 6, 1936	Feb. 16, 1940
Mar. 21, 1940	9th.....	4	Feb. 20, 1941	July 7, 1944
Aug. 8, 1944	10th.....	5	Feb. 22, 1945	July 16, 1948
Aug. 17, 1948	11th.....	5	Feb. 17, 1949	June 28, 1952
Aug. 5, 1952	12th.....	3	Feb. 19, 1953	May 12, 1955
June 29, 1955	13th.....	2	Aug. 17, 1955	

¹ The Ministries from 1935-58 were: 6th Ministry sworn in July 10, 1934, under the leadership of Hon. R. G. Reid; 7th Ministry sworn in Sept. 3, 1935, under the leadership of Hon. Wm. Aberhart; 8th Ministry sworn in May 31, 1943, under the leadership of Hon. Ernest C. Manning.

² Life of Legislature not expired at Sept. 1, 1958.

Eighth Ministry

(Party standing at latest General Election June 29, 1955: 37 Social Credit, 15 Liberals, 3 Progressive Conservatives

2 Co-operative Commonwealth Federation, 1 Liberal Conservative, 1 Coalition,

1 Independent Social Credit and 1 Independent.)

NOTE.—See headnote to Table 15.

Office	Name	Date of First Appointment	Date of Present Appointment
Premier, President of the Council, Minister of Mines and Minerals, and Attorney General	HON. ERNEST C. MANNING.....	Sept. 3, 1935	{ May 31, 1943 Sept. 16, 1952 Aug. 2, 1955
Minister of Education.....	HON. ANDERS O. AALBORG.....	Sept. 9, 1952	Sept. 9, 1952
Minister of Lands and Forests.....	HON. N. A. WILLMORE.....	Nov. 10, 1953	Aug. 2, 1955
Minister of Public Works.....	HON. JAMES HARTLEY.....	Aug. 2, 1955	Aug. 2, 1955
Minister of Health.....	HON. J. D. ROSS.....	Sept. 18, 1957	Sept. 18, 1957
Minister of Public Welfare.....	HON. R. D. JORGENSEN.....	Jan. 5, 1954	Jan. 5, 1954
Minister of Economic Affairs.....	HON. A. R. PATRICK.....	Aug. 2, 1955	Aug. 2, 1955
Minister of Municipal Affairs and Provincial Secretary.....	HON. ALFRED J. HOOKE.....	Apr. 20, 1945	Aug. 2, 1955
Minister of Agriculture.....	HON. LEONARD C. HALMRAST.....	Jan. 3, 1953	Jan. 5, 1954
Minister of Industries and Labour.....	HON. R. REIERSON.....	Aug. 2, 1955	Aug. 2, 1955
Minister of Telephones and Highways.....	HON. GORDON E. TAYLOR.....	Dec. 27, 1950	{ Dec. 27, 1950 May 1, 1951
Provincial Treasurer.....	HON. E. W. HINMAN.....	Dec. 23, 1954	Aug. 2, 1955
Minister without Portfolio.....	HON. F. C. COLBORNE.....	Aug. 2, 1955	Aug. 2, 1955

Subsection 10.—British Columbia

The Government of British Columbia has a Lieutenant-Governor, an Executive Council and a Legislative Assembly. The Honourable Frank Mackenzie Ross, C.M.G., M.C., LL.D., Lieutenant-Governor of the Province at Sept. 1, 1958, was commissioned to office Oct. 3, 1955. Lieutenant-Governors since Confederation are cited in the 1951 Year Book, p. 98.

The Legislative Assembly, elected for a statutory term of five years, has 52 members.

Each Member of the Executive Council and the Legislative Assembly receives a sessional allowance of \$3,400 and \$1,000 for expenses. There is also paid to each Member a living allowance of \$15 for each day's attendance at the session and for each Saturday, Sunday or holiday that intervenes between two sittings of the House; the allowance of \$15 in any session is not paid in respect of more than 40 days. Each Member also receives an allowance of 25 cents per mile of the distance between his place of residence and the city of Victoria, reckoning such distance, going and coming, according to the nearest mail route. In addition, the Premier receives a salary of \$15,000 and each Member of the Executive Council \$12,500. The Leader of the Opposition has a special allowance of \$3,500 for expenses, the Speaker receives a special allowance of \$3,500 and the Deputy Speaker an allowance of \$1,000.

23.—Legislatures and Premiers of British Columbia 1933-58 and Ministry as at Sept. 1, 1958**Legislatures 1933-58¹**

Date of Election	Legislature	Number of Sessions	Date of First Opening	Date of Dissolution
Nov. 2, 1933 ²	18th.....	4	Feb. 20, 1934	Apr. 15, 1937
June 1, 1937	19th.....	5	Oct. 26, 1937	July 22, 1941
Oct. 21, 1941	20th.....	4	Dec. 4, 1941	Aug. 31, 1945
Oct. 25, 1945	21st.....	5	Feb. 21, 1946	Apr. 16, 1949
June 15, 1949	22nd.....	4	Feb. 14, 1950	Apr. 10, 1952
June 12, 1952	23rd.....	1	Feb. 3, 1953	Mar. 27, 1953
June 9, 1953	24th.....	4	Sept. 15, 1953	Aug. 13, 1956
Sept. 19, 1956	25th.....	³	Feb. 7, 1957	³

¹ The Ministries from 1933-58 were: 22nd Ministry sworn in Nov. 15, 1933,⁴ under the leadership of Hon. T. D. Pattullo; 23rd Ministry sworn in Dec. 9, 1941, under the leadership of Hon. John Hart; 24th Ministry sworn in Dec. 29, 1947, under the leadership of Hon. B. I. Johnson; 25th Ministry sworn in Aug. 1, 1952, under the leadership of Hon. W. A. C. Bennett. ² Owing to the death of a candidate, polling day was delayed in the Electoral Districts of Vancouver Centre and Victoria City until Nov. 27, 1933. ³ Life of Legislature not expired at Sept. 1, 1958.

Twenty-Fifth Ministry

(Party standing at latest General Election, Sept. 19, 1956: 39 Social Credit, 10 Co-operative Commonwealth Federation, 2 Liberals and 1 Labour.)

NOTE.—See headnote to Table 15.

Office	Name	Date of First Appointment	Date of Present Appointment
Premier, President of the Council and Minister of Finance.....	HON. WILLIAM ANDREW CECIL BENNETT.....	Aug. 1, 1952	Aug. 1, 1952
Provincial Secretary and Minister of Municipal Affairs.....	HON. WESLEY DREWETT BLACK...	Aug. 1, 1952	Aug. 1, 1952
Attorney-General and Minister of Industrial Development, Trade, and Commerce....	HON. ROBERT WILLIAM BONNER...	Aug. 1, 1952	Aug. 1, 1952
Minister of Lands and Forests.....	HON. RAY GILLIS WILLISTON.....	Apr. 14, 1954	Feb. 28, 1956
Minister of Agriculture.....	HON. NEWTON PHILLIPS STEACY...	Sept. 13, 1957	Sept. 13, 1957
Minister of Mines.....	HON. WILLIAM KENNETH KIERNAN	Aug. 1, 1952	Feb. 28, 1956
Minister of Highways.....	HON. PHILIP ARTHUR GAGLARDI...	Aug. 1, 1952	Mar. 15, 1955
Minister of Labour and Minister of Railways.	HON. LYLE WICKS.....	Aug. 1, 1952	Aug. 1, 1952
Minister of Education.....	HON. LESLIE RAYMOND PETERSON.	Sept. 27, 1956	Sept. 27, 1956
Minister of Health and Welfare.....	HON. ERIC CHARLES FITZGERALD MARTIN.....	Aug. 1, 1952	Aug. 1, 1952
Minister of Public Works.....	HON. WILLIAM NEELANDS CHANT.	Mar. 15, 1955	Mar. 15, 1955
Minister of Recreation and Conservation...	HON. EARLE CATHERS WESTWOOD.	Sept. 27, 1956	Mar. 28, 1957

Subsection 11.—Yukon and Northwest Territories

Yukon Territory.—The Yukon was created a separate Territory in June 1898. Provision is made for a local Government composed of a Chief Executive, styled Commissioner, and an elective Legislative Council of five members with a three-year tenure of office. The Commissioner administers the Government under instructions from the Governor in Council or the Minister of Northern Affairs and National Resources. The Commissioner in Council has power to make ordinances dealing with the imposition of local taxes, sale of liquor, preservation of game, establishment of territorial offices, maintenance of prisons and municipal institutions, issue of licences, incorporation of companies, solemnization of marriage, property and civil rights, administration of justice and generally all matters of a local nature in the Territory. The seat of local government is at Whitehorse, Yukon Territory.

TERRITORIAL COUNCIL

(Five members elected 1958, for three years)

Dawson.....	G. SHAW	Whitehorse East.....	C. D. TAYLOR
Mayo.....	R. L. McKAMEY	Whitehorse West.....	J. SMITH
	Carmacks.....	J. LIVESAY	

TERRITORIAL OFFICIALS

(As at Dec. 31, 1958)

Commissioner (Whitehorse).....	F. H. COLLINS
Superintendent of Works and Buildings.....	K. J. BAKER
Registrar of Vital Statistics.....	H. J. TAYLOR
Legal Adviser.....	D. S. COLLINS

The Northern Administration and Lands Branch, Department of Northern Affairs and National Resources, has the responsibility for the general administration of the natural resources of the Yukon Territory, except game. The Department maintains three lands and mining offices at various points in the Territory. Other Departments of the Federal Government including Justice, National Revenue, Transport, Post Office, and Public Works, also maintain offices in the Yukon Territory.*

Northwest Territories.—As reconstituted on Sept. 1, 1905, these comprise:—

- (1) all that part of Canada north of the Sixtieth Parallel of North Latitude, except the portions thereof within the Yukon Territory and the Provinces of Quebec and Newfoundland, and
- (2) the islands in Hudson Bay, James Bay and Ungava Bay, except those islands within the Provinces of Manitoba, Ontario and Quebec.

The Northwest Territories Act (R.S.C. 1952, c. 331) provides for the appointment of a Commissioner to administer the government of the Territories under instructions given from time to time by the Governor in Council or the Minister of Northern Affairs and National Resources. As a matter of practice the appointment is held by the Deputy Minister of Northern Affairs and National Resources. For administrative purposes the Territories are divided into the provisional districts of Mackenzie, Keewatin and Franklin (Order in Council dated Mar. 16, 1918). The Northwest Territories Act, as amended, also provides for a Council of nine members, four of whom are elected in the Mackenzie District and five of whom are appointed by the Governor in Council. The Commissioner in Council has legislative powers respecting such matters as direct taxation, establishment and tenure of territorial offices, municipal institutions, controverted elections, licences, incorporation of companies, property and civil rights, administration of justice, game, education, hospitals and generally all matters of a merely local or private nature. The Council meets once each year in the Territories and at least once each year in Ottawa which is the seat of government. The resources, except game, remain under the control of the Federal Government. The administration of legislation passed by the Commissioner in Council and the management of resources under federal legislation are carried on by the Northern Administration and Lands Branch of the Department of Northern Affairs and National Resources. Administrative offices are located in the Territories at Fort Smith, Yellowknife, Hay River and Aklavik.

COUNCIL OF THE NORTHWEST TERRITORIES

(As at Dec. 6, 1958)

Commissioner.....	R. G. ROBERTSON
Deputy Commissioner.....	W. G. BROWN
Members of the Council—	
Appointed.....	LOUIS DE LA C. AUDETTE, C. M. DRURY, H. M. JONES, W. G. BROWN, L. H. NICHOLSON
Elected.....	K. LANG, J. W. GOODALL, ROBERT C. PORRITT, E. J. GALL†
Officers of the Council—	
Secretary.....	R. A. BISHOP
Legal Adviser.....	E. R. OLSON

* Further information on officials of various Federal Government Departments serving Yukon Territory may be obtained from the Director, Northern Administration and Lands Branch, Department of Northern Affairs and National Resources, Ottawa.

† Appointed Dec. 6, 1958 to complete term of John Parker who resigned as member upon his appointment as Judge of the Territorial Court of the Yukon Territory.

Section 3.—Municipal Government*

Municipal government in Canada is placed under the control of the provincial legislatures by the British North America Act, 1867. Thus the powers of municipalities are those delegated to them by statutes passed by their respective provincial governments, some of which apply to all municipalities within the province, some to a certain type or group, and many to one municipality only. Municipal powers are further defined by regulations issued (under the provisions of the Acts) by the provincial government departments charged with their supervision and control. In the Yukon and Northwest Territories, some municipal powers have been assigned to certain localities by the Federal Government and the territorial councils.

While powers and responsibilities delegated to municipalities vary from province to province and even within a province, they are largely those of raising money locally, of borrowing, and of spending to provide local services. All provinces give financial assistance in some form, usually as subsidies or grants-in-aid of certain services administered by the municipalities, and often as loans on or guarantees of loans for capital projects. Retention or assumption of what are often regarded as municipal responsibilities is sometimes considered an indirect form of aid, as is the extension of taxing privileges into what may be commonly regarded as a provincial revenue field.

The major revenue source available to municipalities is property taxation. It is supplemented in varying degrees by taxation of personal property, business, persons (poll taxes), and tenants. In two provinces municipalities may levy an amusement tax, in two they may impose sales taxes on a limited basis, and in Quebec some cities have been granted the right to levy a general sales tax. Miscellaneous general revenue is derived from licences, permits, rents, concessions, franchises and fines. Most urban municipalities of any size operate utilities and enterprises for the provision of water and, in many instances, electricity, gas, transportation, telephone and other services. These sometimes provide surplus funds that may become available to help provide other municipal services. On the other hand, expenditures of municipalities often include provision for the deficits of utilities and enterprises.

In differing degree and with varying provincial assistance, municipalities are responsible for the following services: protection to persons and property through police and fire forces, courts and local gaols, and inspection services; roads and streets; sanitation; certain health and welfare services; and some recreation and other community services. Except in Quebec and Newfoundland and in a few minor localities where school authorities must raise funds for education that are not provided by the province concerned, municipalities are responsible for levying and collecting local education taxes on property on behalf of the local schools, and often for borrowing capital funds for school construction. This stems from the traditional concept that education is a local responsibility, though it is now largely financed and administered by the provincial governments. Local administrative responsibility for education lies with boards of trustees separate from the councils that govern municipalities (except in the "counties" recently established in Alberta).

In some localities, certain local services are administered by special district authorities encompassing a number of municipalities or parts of municipalities. These district authorities provide services, such as greater water and sewerage districts, drainage and irrigation districts, and health units, which elsewhere may be provided by the muni-

* Prepared in the Public Finance and Transportation Division, Dominion Bureau of Statistics.

cipality directly or through a board or utility. They are, in effect, co-operative efforts or a modified form of metropolitan government. Metropolitan government is a live issue in many larger centres but so far has been established only in the Toronto area.

The following paragraphs describe municipal organization in each province as at Jan. 1, 1958. In Table 24, which gives the number of each type of municipality in each province, all fully incorporated cities, towns and villages are regarded as urban municipalities. It is difficult to apply arbitrary definitions, such as that which classifies as urban centres all places having a population of 1,000 or more persons.

Newfoundland.—The Province of Newfoundland has two cities—St. John's and Corner Brook. A number of the province's many settlements have been organized into 31 towns, four rural districts, three local improvement districts and 27 local government communities. The towns, rural districts and local improvement districts operate under the Local Government Act; towns and rural districts have elected councils and local improvement districts have appointed trustees. Local government communities established under the Community Councils Act in the smaller settlements have limited powers and functions. There are no rural municipalities in the usual sense. Thus, between 40 p.c. and 50 p.c. of the population of the province is now organized in some form of local authority but only about one-fifth of 1 p.c. of the total area is so governed. Municipalities are supervised by the Department of Municipal Affairs and Supply.

Prince Edward Island.—In this island province, one city and seven towns have been incorporated under special Acts and 16 villages have been established under the Village Services Act. There is no municipal organization for the remainder of the province though it is divided into school sections.

Nova Scotia.—Municipal organization in Nova Scotia covers the whole of the province. The two cities, Halifax and Sydney, operate under special charters and special legislation. Forty towns operate under the Town Incorporation Act but there are no municipalities incorporated as villages. Cities and towns are independent of counties. The rural area is divided into 18 counties which, in themselves, do not represent units of local government. However 12 of these counties each comprise one municipality and the other six each comprise two municipalities, making a total of 24 rural municipalities. Supervision of municipalities is exercised through the Department of Municipal Affairs.

New Brunswick.—This province is divided into 15 counties which are incorporated municipalities and have direct powers of local self-government as rural municipalities, though certain of their powers often apply in both rural and urban municipalities. The six cities have special charters, and the 20 towns operate under the Towns Incorporation Act. There is one village and 56 local improvement district areas within the counties but outside the cities, towns and villages; these have been incorporated for the provision of limited municipal services. The Department of Municipal Affairs exercises supervision.

Quebec.—Municipal divisions in Quebec embrace the more thickly settled areas comprising about one-third of the province, the remainder being governed by the province as "territories". The organized area is divided into 75 county municipalities, which are divided again into local municipalities and designated as village, township or parish municipalities or simply as municipalities. The counties as such have no direct powers of taxation. Funds to finance the services falling within their jurisdiction are provided by the municipalities forming part thereof. Parts of some counties are not yet organized into incorporated units of local government, being in outlying areas with little or no

population. There are 336 villages and 1,132 townships and parishes. A small number of these are independent of the counties in which they are located. The Municipal Code governs local municipalities, and the 42 cities and 152 towns have special Acts. The supervision and assistance of municipalities is through the Department of Municipal Affairs and the Quebec Municipal Commission. Municipal statistics are gathered by the Quebec Bureau of Statistics.

Ontario.—Slightly more than one-tenth of the area of Ontario is municipally organized and the remainder is governed entirely by the provincial government. The older section of the province is divided into 43 counties, five of which are united with others for administrative purposes. Each county, although it is an incorporated municipality, is comprised of the towns, villages and townships situated within its borders, and these provide its revenue. The Municipality of Metropolitan Toronto encompasses one city, four towns, three villages and five townships. There are 29 cities, 157 towns, 154 villages, 573 townships and 24 improvement districts in the province. Some of each are located in the northern districts which are not organized into counties. Supervisory control of municipalities is exercised by the Department of Municipal Affairs and the Ontario Municipal Board under the Municipal Act and other Acts governing aspects of municipal government.

Manitoba.—Manitoba has six cities, which derive their powers from special Acts and do not come under the supervision of the Department of Municipal Affairs. The Department supervises the 35 towns, 37 villages and 112 rural municipalities under the Municipal Act. There are local government districts in settled areas not within rural municipalities.

Saskatchewan.—All municipalities in Saskatchewan derive their powers from general Acts that are designated with the name of the type of municipality. There are 10 cities, 102 towns, 373 villages and 296 rural municipalities. The area so organized consists of most of the southern two-fifths of the province—the remainder of this portion is administered for local purposes by the province in unincorporated local improvement districts. The northern three-fifths is sparsely populated and without local government though some municipal services are provided by the province through operation of the Northern Administrative Area. Supervision of municipalities is in the hands of the Department of Municipal Affairs.

Alberta.—The province has an Act applying to each type of municipality, and under these Acts the Department of Municipal Affairs supervises the 9 cities, 86 towns, 152 villages, 38 municipal districts and 10 counties. The latter administer schools as well as municipal services.

British Columbia.—Less than one-half of 1 p.c. of the area of British Columbia is organized into municipalities. Additional small areas have sufficient population to require administration of local activities by the provincial government. There are 35 cities, 2 towns, 55 villages, and 30 districts; the latter are chiefly rural municipalities except for those adjacent to the principal cities of Victoria and Vancouver, which are largely urban in character. It should be emphasized, however, that the application of the name "city" is somewhat different from the commonly accepted meaning in that several of them have populations of fewer than 1,000 and perhaps one-half or more would not normally be incorporated as cities in another province. Legislation of 1957 provided for the incorporation of towns, and two villages attained this status at the beginning of 1958. Municipalities are supervised by the Department of Municipal Affairs.

Yukon and Northwest Territories.—There are two cities and one town in the Yukon Territory and two local administrative districts in the Northwest Territories, all of which provide some municipal services to their local areas. These are not shown in Table 24.

24.—Municipalities, by Official Designation¹ and by Statistical Classification,² by Province, as at Jan. 1, 1958

Item	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Total
OFFICIAL DESIGNATION ¹											
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
Local municipalities.....	67	24	66	42 ³	1,662	937	190	781	295	122	4,186
Cities.....	2	1	2	6	42	29	6	10	9	35	142
Towns.....	38 ⁴	7	40	20	152	167	35	102	88	2	639
Villages.....	27 ⁵	16	...	1	536	164	37	373	152	55	1,151
Rural ⁶	...	...	24	15	1,132	597 ⁷	112 ⁸	296 ⁹	43 ¹⁰	30	2,254
Quebec and Ontario counties	...	...	...	...	75	39 ¹¹	...	...	...	...	114
Totals, Incorporated Municipalities.....	67	24	66	42	1,737	976	190	781	295	122	4,300
STATISTICAL CLASSIFICATION ²											
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
Municipalities in metropolitan areas ¹²	2	...	3	5	76	40	14	...	10	19	169
Urban.....	2	...	2	3	67	23	7	...	6	7	107
Rural.....	...	...	1	2	10	17	7	...	4	12	62
Other urban municipalities..	65	24	40	24	473	317	71	485	241	85	1,825
Other rural municipalities..	...	...	23	13	1,113	580	105	296	44	18	2,192
Semi-urban.....	...	...	...	...	...	56 ¹³	...	...	...	...	56
Other.....	...	...	23	13	1,113	524	105	296	44	18	2,136
Quebec and Ontario counties	...	...	...	...	75	39	...	...	...	...	114
Totals, Incorporated Municipalities.....	67	24	66	42	1,737	976	190	781	295	122	4,300

¹ Municipalities grouped according to their official nomenclature, which is roughly indicative of size and nature (see footnote 6). ² Municipalities grouped under the classification devised by the Dominion-Provincial Conferences on Municipal Statistics, designed to bring municipalities into comparable groups for statistical presentation.

³ Excludes 57 local improvement districts. ⁴ Designated by the province as towns (31), rural districts (4), and local improvement districts (3); all operate under the same Act. ⁵ Classified by province as "community councils".

⁶ Rural municipalities are designated by different names in the different provinces. ⁷ Includes 24 improvement districts. ⁸ Includes 3 units of self-government known as "suburban municipalities"; excludes local government districts. ⁹ Excludes 12 improvement districts. ¹⁰ Includes 10 county municipalities; excludes 50 improvement districts and two special areas.

¹¹ Includes Municipality of Metropolitan Toronto. ¹² Includes municipalities shown wholly or partly in metropolitan areas by the 1956 Census, except for the Municipality of Metropolitan Toronto (see footnote 11). ¹³ Classed by provincial authorities as sub-urban and semi-urban.

Section 4.—Federal and Provincial Royal Commissions

Federal Royal Commissions.*—Royal Commissions established from Oct. 15, 1957 to Jan. 31, 1958 are given in the Appendix, p. 1293 of the 1957-58 Year Book, in continuation of those previously reported in the Year Books beginning with the 1940 edition at pp. 1108-1110.

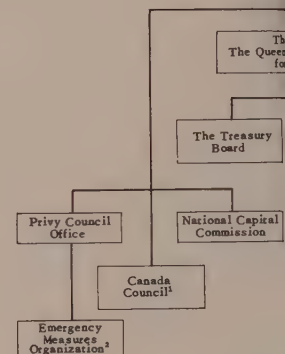
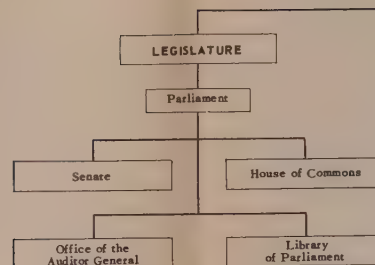
* Commissions constituted under Part I of the Federal Inquiries Act.

Provincial Royal Commissions.—The following list is in continuation of those appearing in previous Year Books beginning with the 1948-49 edition.

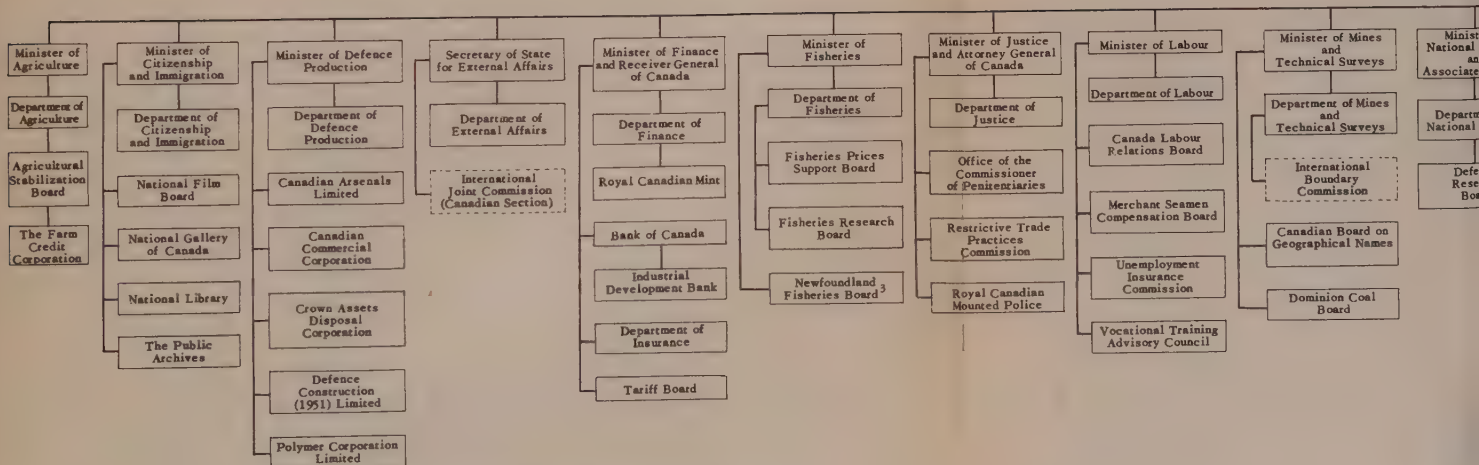
<i>Province and Nature of Commission</i>	<i>Commissioner or Chairman</i>	<i>Date</i>
NEWFOUNDLAND		
Commission of Enquiry into the situation with respect to unemployment throughout the Province.	Lester Coombs.....	June 17, 1958
Commission of Enquiry into the matter of the award of Pensions and/or Gratuities to Civil Servants and other employees of the Government of Newfoundland.	G. W. D. Allen.....	June 17, 1958
MANITOBA		
Commission to inquire into the matter of Education.	Ronald Oliver MacFarlane.....	May 15, 1957
Commission to inquire into every aspect of the Workmen's Compensation Act.	Hon. William F. A. Turgeon.....	Sept. 11, 1957
Commission to inquire into the distribution of natural gas in Greater Winnipeg.	John J. Deutsch.....	Mar. 4, 1958
ALBERTA		
Commission to inquire into feasibility of introducing uniform scale of salaries for teachers.	G. M. Blackstock.....	July 9, 1957
Commission to inquire into present and potential development of that part of Alberta lying generally to the north of the 55th Parallel of North Latitude.	J. G. MacGregor.....	July 19, 1957
Commission to make comprehensive survey of various phases of elementary and secondary school system of Province of Alberta with particular attention to programs of study and pupil achievement.	Hon. D. Cameron.....	Dec. 31, 1957
BRITISH COLUMBIA		
Board of Reference to receive and examine representations for the alteration of the Civil Service Act.	Hon. Gordon McGregor Sloan (Board of Reference)*.....	July 9, 1957
Forest Management Licences.....	Hon. Gordon McGregor Sloan.....	Nov. 1, 1957
Forestry Resources—Appointment of Advisor to the Government in relation to the Forest Resources of British Columbia.	Hon. Gordon McGregor Sloan.....	Dec. 19, 1957
Provincial educational system to university level.	Sperrin N. F. Chant.....	Jan. 17, 1958
Road User Charges.....	Dr. Henry Forbes Angus.....	April 14, 1958
Inquiry into the collapse of a certain portion of the Second Narrows Bridge.	Hon. Chief Justice Sherwood Lett..	June 18, 1958
Industrial Inquiry Commission to inquire into the circumstances and merits of disputes between the International Woodworkers of America and Companies represented by Forest Industrial Relations.	Hon. Gordon McGregor Sloan.....	Aug. 2, 1958
Industrial Inquiry Commission to inquire into the circumstances and merits of disputes between various employers, employers' associations, employees and unions engaged in the plumbing and pipefitting industry and the electrical industry.	H. Carl Goldenberg.....	Aug. 13, 1958

* Resignation accepted May 12, 1958; Alfred William Carrothers appointed May 12, 1958.

THE GOVERNMENT



DEPARTMENTS



Note: Lines of responsibility are often inconclusive, since certain semi-independent agencies, though each responsible to a Minister of the Crown, are administered as departmental branches.

GOVERNMENT OF CANADA

SOVEREIGN

GOVERNOR GENERAL

Office of the Secretary
to the Governor General

EXECUTIVE

Minister

Cabinet

Privy Council

Canada

JUDICIARY

Supreme Court
of Canada

Exchequer Court
of Canada

Chairman of the
Committee of the Privy Council
on Scientific and Industrial Research

National
Research Council

Canadian Patents
and Development Limited

Eldorado Mining and
Refining Limited

Northern Transportation
Company Limited

Eldorado Aviation
Limited

Atomic Energy of
Canada Limited

Atomic Energy
Control Board

DEPARTMENTS AND AGENCIES

Minister of

National Health

and Welfare

Minister

of

National Health

and Welfare

Minister

of

National Health

and Welfare

Minister

of

National Health

and Welfare

Minister

of

National Health

and Welfare

Minister

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National Health

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Minister

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National Health

and Welfare

Minister

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National Health

and Welfare

Minister

of

National Health

and Welfare

Minister of National Health and Welfare

Department of National Health and Welfare

Board of Broadcast Governors

Canadian Broadcasting Corporation

Tax Appeal Board

Minister of National Revenue

Department of National Revenue

Board of Broadcast Governors

Canadian Broadcasting Corporation

Tax Appeal Board

Minister of Northern Affairs and National Resources

Department of Northern Affairs and National Resources

Commissioner of the Northwest Territories

Commissioner of the Yukon Territory

Eastern Rockies Forest Conservation Board

Historic Sites and Monuments Board

National Battlefields Commission

Northern Canada Power Commission

Postmaster General

Post Office Department

Minister of Public Works

Department of Public Works

Central Mortgage and Housing Corporation

Secretary of State and Registrar General of Canada

Department of the Secretary of State of Canada

Office of the Custodian

Office of the Chief Electoral Officer of Canada

Civil Service Commission

Department of Public Printing and Stationery

War Claims Commission

Solicitor General

Minister of Trade and Commerce

Department of Trade and Commerce

The Canadian Wheat Board

Dominion Bureau of Statistics

Export Credits Insurance Corporation

Board of Grain Commissioners

Newfoundland Fisheries Board¹

National Energy Board

Northern Ontario Pipe Line Crown Corporation

Minister of Transport

Department of Transport

Air Transport Board

Canadian Maritime Commission

Canadian National Railways

Canadian National (West Indies) Steamships Limited

Canadian Overseas Telecommunication Corporation

National Harbours Board

The St. Lawrence Seaway Authority

Board of Transport Commissioners for Canada

Trans-Canada Air Lines

Minister of Veterans Affairs

Department of Veterans Affairs

Canadian Pension Commission

War Veterans Allowance Board

1. Not an Agent of the Crown but reports to Parliament through the Prime Minister.

2. Responsible, through the Secretary to the Cabinet, to the Prime Minister for the co-ordination of civil emergency planning, including civil defence. On September 1, 1959, the Departments of National Defence, Health and Welfare and Justice became responsible for specific civil defence functions; the Emergency Measures Organization for the residue.

3. Jointly responsible to the Minister of Fisheries and the Minister of Trade and Commerce.

PART III.—ADMINISTRATIVE FUNCTIONS OF THE FEDERAL GOVERNMENT*

A special article presenting information on the administration and control of the financial affairs of the Federal Government appears in the 1956 Year Book at pp. 101-107.

Section 1.—Departments, Boards, Commissions, etc.

The following paragraphs indicate the functions of the various departments of government and the special boards and commissions in connection with the work of government.

Though it is not possible, owing to the limitations of space, to enumerate in this Section the details of each service or the divisions or sections of all the departments, the main branches are given along with those services that differ in some quality from the larger class of subjects handled by a department. The work of many of these departments and boards is given in detail in later Chapters of this volume. The Index will be useful in locating required information.

Department of Agriculture.—This Department was established in 1867 (30 Vict., c. 53) and undertakes work on all phases of agriculture. Research and experimentation are carried out by the Research Branch; the maintenance of standards and protection of products by the Production and Marketing Branch; reclamation and development by the Prairie Farm Rehabilitation Administration and the Maritime Marshland Rehabilitation Administration; security and price stability policies are administered under the Prairie Farm Assistance Administration and Agricultural Stabilization Board.

Air Transport Board.—The Air Transport Board was established in 1944 by amendment of the Aeronautics Act. The Board is responsible for the economic regulation of commercial air services in Canada. The regulatory function relates to Canadian air services within Canada and abroad, and to foreign air services operating into Canada. It involves the licensing of all such services and the subsequent regulation of the licensees in respect of their economic operation and the provision of service to the public. The Board reports to Parliament through the Minister of Transport.

Auditor General's Office.—This Office originated in 1878 (41 Vict., c. 7) and currently functions under the Financial Administration Act (R.S.C. 1952, c. 116). The Auditor General is responsible for examining accounts relating to the Consolidated Revenue Fund and to public property, and for reporting annually to the House of Commons the results of his examinations. He also audits the accounts of various Crown corporations and other instrumentalities.

Board of Grain Commissioners.—Constituted in 1912 under the Canada Grain Act, 1912—now Canada Grain Act, 1930 (R.S.C. 1952, c. 25)—the Board of Grain Commissioners provides general supervision over grain handling in Canada, by licensing elevator operators, inspecting and weighing grain en route to and shipped from terminal elevators, and other services. The Board, comprising a Chief Commissioner and two Commissioners, has authority to inquire into any matter relating to the grading and weighing of grain, deductions for dockage or shrinkage, deterioration of any grain during storage or treatment, unfair or discriminatory operation of a grain elevator, etc. The Board publishes its regulations in the *Canada Gazette* and reports to Parliament through the Minister of Trade and Commerce.

Board of Transport Commissioners.—The powers of this Board, which was organized as the Board of Railway Commissioners in 1904, have been extended from time to time until today it has regulatory and judicial functions dealing with almost all aspects of railway activity including location, construction and operation of lines, rates and charges. It is also entrusted with the regulation of other transportation and communication agencies, including express companies, telegraph companies, telephone companies other than those provincially or municipally controlled, international bridges and tunnels, inland shipping and pipelines. The Board reports to Parliament through the Minister of Transport.

Canadian Government Specifications Board.—This is a co-operative body in which Government and industry participate on a voluntary basis. It was formed June 13, 1934, as the Canadian Government Purchasing Standards Committee, under the auspices of the National Research Council. It undertakes the preparation of specifications in commodity fields and for materials, processes and equipment in which government departments and agencies may be interested and arranges for testing and research work.

* As at Sept. 1, 1953; changes taking place between that date and the date of going to press are carried in an Appendix to this volume and in the accompanying chart showing the organization of the Government of Canada.

Chief Electoral Office.—This Office was established in 1920 under the provisions of the Dominion Elections Act, now the Canada Elections Act (R.S.C. 1952, c. 23), and amendments thereto, and is responsible for the conduct of all federal elections as well as the elections of members of the Northwest Territories Council. In addition it conducts any vote taken under the Canada Temperance Act. The Chief Electoral Officer reports to Parliament through the Secretary of State.

Department of Citizenship and Immigration.—This Department was constituted in December 1949 (R.S.C. 1952, c. 67) and came into existence on Jan. 18, 1950, under the Minister of Citizenship and Immigration. Most departmental work is carried on through four branches. The Canadian Citizenship Branch assists governmental and non-governmental agencies engaged or interested in facilitating the adjustment and integration of newcomers and in making Canadians conscious of their privileges and responsibilities as citizens. The Canadian Citizenship Registration Branch administers the Canadian Citizenship Act and is the custodian of all records under that Act and all Naturalization Acts previously in force. The Immigration Branch administers the Immigration Act and Regulations and is responsible for the selection, examination and movement of immigrants, the exclusion or deportation of undesirables and the settlement or establishment of immigrants in Canada. The activities of the Indian Affairs Branch include management of all Indian affairs. Its organization consists of a headquarters office at Ottawa, a regional supervisory staff, and 89 local agencies in the field.

The Minister of Citizenship and Immigration is responsible to Parliament for the National Film Board, the National Library, the Public Archives, and for the National Gallery of Canada.

Civil Service Commission.—The Civil Service Commission of Canada dates from the Civil Service Act of 1908. Under this Act the Commission was given the responsibility of applying, wherever possible, the principle of appointment by merit in filling permanent positions within departmental headquarters positions at Ottawa, termed the 'inside service'.

The Civil Service Act, 1918 extended the competitive system of appointments to cover the outside as well as the inside service and temporary as well as permanent appointments. It made the Commission responsible for establishing a system of organization and classification that would secure uniformity in the staffing of the various departments and in the salaries paid for work of equal levels of difficulty and responsibility.

The jurisdiction of the Commission now extends to all departments of the Government and to a large number of boards and commissions, exclusive of Crown corporations.

The Civil Service Commission, which is responsible not to the executive government but only to Parliament, consists of three members, one of whom serves as Chairman. Each member of the Commission is appointed by the Governor in Council for a term of ten years and each has the rank and standing of a Deputy Minister. The Commission has a staff of approximately 660 persons located in the headquarters office at Ottawa and in district offices at St. John's, Nfld., Halifax, N.S., Moncton, N.B., Montreal, Que., Toronto, Ont., Winnipeg, Man., Regina, Sask., Edmonton, Alta., and Vancouver, B.C.

Department of Defence Production.—This Department was established on Apr. 1, 1951, under the provisions of the Defence Production Act (R.S.C. 1952, c. 62, as amended). Under this Act the Minister is given, with certain exceptions, authority to buy defence supplies and construct defence projects required by the Department of National Defence. The Minister may, if authorized by the Governor General in Council, undertake for an associated government anything he may undertake for the Canadian Government. In addition, all powers, duties and functions that theretofore were vested in the Minister of Trade and Commerce under any contract, agreement, lease or other writing entered into pursuant to the Department of Munitions and Supply Act, 1939, or the Defence Supplies Act, 1950, are vested in the Minister of Defence Production.

Broadly, the Department's functions are to procure military goods, to construct defence installations and to organize industry for defence as required on behalf of the Department of National Defence, other government departments, and associated governments; to promote the expansion of defence production facilities and the development of defence-supporting industries particularly of strategic resources important for the defence of Canada and its allies; and to ensure adequate supplies of essential materials and services for defence requirements. The main procurement units of the Department are six production branches—Aircraft, Ammunition, Electronics, Gun, Machine Tool and Shipbuilding—and a General Purchasing Branch. Major offices for foreign procurement are located at London, England, and Washington, U.S.A.; the General Purchasing Branch has 14 district purchasing offices located throughout Canada for local or urgent procurement. In addition, there are various service branches which include Administration, Comptroller's, Economics and Statistics, Financial Adviser's, Industrial Security, Legal, and Secretary's.

The following Crown companies report to Parliament through the Minister of Defence Production: Canadian Arsenals Limited, Canadian Commercial Corporation, Crown Assets Disposal Corporation, Defence Construction (1951) Limited, and Polymer Corporation Limited.

Dominion Bureau of Statistics.—The Dominion Bureau of Statistics was set up by statute in 1918 as a central statistical department for Canada (3-9 Geo. V, c. 43). In 1948 this statute, which had been consolidated as the Statistics Act (R.S.C. 1927, c. 190), was repealed and replaced by the Statistics Act (R.S.C. 1952, c. 257); it was amended by 1-2 Eliz. II, c. 18, assented to Mar. 31, 1953.

The function of the Dominion Bureau of Statistics is to compile, analyse and publish statistical information relative to the commercial, industrial, financial, social and general condition of the people and to conduct a census of population and agriculture of Canada as required under the Act.

The Bureau is the principal publication agency of the Federal Government; the subjects of the reports cover all aspects of the national economy. The administrative head of the Bureau is the Dominion Statistician who reports to Parliament through the Minister of Trade and Commerce.

Department of External Affairs.—This Department was established in 1909 by "An Act to create a Department of External Affairs" (R.S.C. 1952, c. 68). Its main function is the protection and advancement of Canadian interests abroad. The head of the Department of External Affairs is the Secretary of State for External Affairs. The senior permanent officer of the Department is the Under-Secretary (Deputy Minister) who is the chief adviser to the Secretary of State for External Affairs. He is assisted by a Deputy Under-Secretary and by four Assistant Under-Secretaries, one of whom is Legal Adviser, and is advised by officers in charge of the various divisions, each responsible for a part of the work of the Department. The divisional heads are assisted by Foreign Service Officers, Administrative Officers and by an administrative staff. Officers serving abroad are formally designated as Ambassadors, Ministers, Counsellors, First, Second, Third Secretaries and Attachés at diplomatic posts and as Consuls General, Consuls and Vice-Consuls at consular posts. Sixty-four diplomatic and consular posts are maintained abroad.

The work of the Department at Ottawa is performed by 19 divisions, which can be grouped according to their functions into three categories—political, functional and administrative. There are five political divisions—American, Commonwealth, European, Middle Eastern and Far Eastern; ten functional divisions—Communications, Consular, Defence Liaison (1) and (2), Economic, Information, Legal, Historical Research and Reports, Protocol and United Nations; and four administrative divisions—Establishments and Organization, Finance, Personnel, and Supplies and Properties. There are also three smaller sections—Inspection Service, Political Co-ordination Section and the Press Office.

Department of Finance.—This Department, created on June 22, 1869, by an Act respecting the Department of Finance (32-33 Vict., c. 4), is under the authority of the Minister of Finance. The Department is responsible for the financial administration of Canada including raising the money required for the various governmental activities by way of taxation or borrowing. The Comptroller of the Treasury, an officer of the Department, is responsible for all Government disbursements.

The work of the Department is organized in six principal Divisions: Administration, Financial Administration and Accounting Policy, Superannuation, Treasury Board, Taxation, and International Affairs. The Royal Canadian Mint is a branch of the Department and the Inspector General of Banks is an officer of the Department.

The Tariff Board and the Canadian Farm Loan Board are responsible to Parliament through the Minister of Finance.

Department of Fisheries.—The Department of Fisheries was first organized under a Minister of Fisheries in 1930. Prior to that date the federal fisheries services were maintained by the former Department of Marine and Fisheries, established in 1868. The provinces, under various arrangements, have certain administrative responsibilities in the fisheries but the legislative authority for the regulations of coastal and freshwater fisheries is with the federal Department of Fisheries.

The work of the Department includes: conservation and development of the fisheries through the enforcement of fishing regulations, the operation of fish culture establishments, management and improvement of spawning streams and control of predators; inspection of fish products for quality control and the encouragement of industrial development; promotion of the greatest utilization of fishery products and a proper public understanding of the resource and the industry. The Department administers the Fishermen's Indemnity Plan to assist fishermen in the event of loss or serious damage to their fishing vessels or lobster traps.

Agencies connected with the Department are the Fisheries Prices Support Board and the Fisheries Research Board of Canada. The Department is represented on these International Commissions: Pacific Salmon Fisheries, Pacific Halibut, the Northwest Atlantic Fisheries, North Pacific Fisheries, Whaling, and Great Lakes Fishery, and participates in an international agreement controlling the take of Pribilof seals.

Fisheries Research Board.—The Fisheries Research Board operates under the Fisheries Research Board Act of 1937 (amended in 1947 and 1952-53). It has been active as a fisheries research body since 1898, first as Board of Management of the Canadian Marine Biological Station and later (1912) as the Biological Board of Canada.

The Board operates under the Minister of Fisheries and membership consists of a full-time chairman and up to 18 members appointed by the Minister from among leading Canadian scientists and businessmen with a knowledge of fishery problems, and senior officers of the Department of Fisheries.

The Board operates five biological stations across Canada, three technological stations with two application units and two oceanographic groups. It serves as the scientific arm of the Department of Fisheries and its principal objective is to increase the scope and value of Canadian fisheries through scientific research.

Department of Insurance.—The Minister of Finance is responsible for the Department of Insurance which originated in 1875 as a branch of the Department of Finance but was constituted a separate Department in 1910. It is authorized and governed by the Department of Insurance Act (R.S.C. 1952, c. 70). Under the Superintendent of Insurance, the Department administers the statutes of Canada applicable to: insurance, trust and loan companies incorporated by the Parliament of Canada; provincially incorporated insurance companies registered with the Department; British and foreign insurance companies operating in Canada; small loans companies and money-lenders; co-operative credit societies registered under the Co-operative Credit Associations Act; and Civil Service insurance.

Under the relevant provincial statutes the Department examines provincial trust companies in the Provinces of Manitoba and New Brunswick and loan and trust companies in the Province of Nova Scotia.

International Joint Commission.—This Commission was established under a Great Britain-United States treaty, Jan. 11, 1909, ratified by Canada in 1911. The Commission, composed of six members (three appointed by the President of the United States and three by the Government of Canada) is governed by five specific Articles of the Boundary Waters Treaty of 1909. The Commission's approval is required for any use, obstruction or diversion of boundary waters affecting the natural level or flow of boundary waters in the other country; and for any works in waters flowing from boundary waters or below the boundary in rivers flowing across the boundary which raise the natural level of waters on the other side of the boundary.

Problems arising along the common frontier are also referred to the Commission by either country for examination and report, such report to contain appropriate conclusions and recommendations. In addition, questions or matters of difference between the two countries may be referred to the Commission for decision, provided both countries consent.

The Commission reports to the Secretary of State for External Affairs of Canada and the Secretary of State of the United States.

Department of Justice.—This Department, established by 31 Vict., c. 39 (1868), now operates under authority of the Department of Justice Act (R.S.C. 1952, c. 71). It provides legal services to the Government and various government departments including preparing and settling government legislation, settling instruments issued under the Great Seal, regulating and conducting litigation for or against the Crown, superintending the acquisition of property and prosecutions under federal legislation other than the Criminal Code, administers federal statutes dealing with legal matters and provides administrative services for the Supreme Court of Canada and the Exchequer Court. The Department also superintends the penitentiaries and administers the prison system of Canada.

Department of Labour.—The Department of Labour was established in 1900 by Act of Parliament (63-64 Vict., c. 24) and now operates under authority of the Department of Labour Act (R.S.C. 1952, c. 72). The Department administers, under the Minister of Labour, legislation dealing with: industrial relations, investigation of disputes, etc.; fair employment practices; the regulation of fair wages and hours of labour; reinstatement in civil employment; female employees equal pay; government annuities; government employee compensation; merchant seamen compensation; vocational training; annual vacations with pay. It promotes joint consultation in industry through labour-management committees; provides co-ordination of services for rehabilitation of disabled civilians; organizes manpower utilization programs, e.g., farm labour; and operates a Women's Bureau. The Department publishes the *Labour Gazette* and other publications, as well as general information on labour-management, employment, manpower and related subjects.

The Canada Labour Relations Board acts on behalf of, and the Vocational Training Advisory Council acts in an advisory capacity to the Minister of Labour, and the Merchant Seamen Compensation Board reports to the Minister of Labour. The Department is the official liaison agency between the Canadian Government and the International Labour Organization.

The Unemployment Insurance Commission, which also maintains the National Employment Service, reports to the Minister of Labour.

Department of Mines and Technical Surveys.—This Department was created by an Act of Parliament (13 Geo. VI, c. 17) which received Royal Assent on Dec. 10, 1949. Its establishment resulted from the reorganization of certain former departments. A primary function of the Department is to provide technological assistance in the development of Canada's mineral resources through investigations and research in the fields of geology, mineral dressing and metallurgy. The Department establishes the framework of surveys throughout the country that provides

control for all surveying and mapping in Canada. It produces the base maps used in the development of Canada's natural resources, conducts all the charting of Canada's coastal and inland waters, and issues the official Canadian sea and air navigation charts. The Department is under the Minister of Mines and Technical Surveys and is divided into five branches: the Surveys and Mapping Branch, the Geological Survey of Canada, the Mines Branch, the Dominion Observatories, and the Geographical Branch. The Mineral Resources Division, a unit of head office, gives its whole attention to matters concerned with the economics of mineral resources development.

The Department administers the Explosives Act which regulates the manufacture, testing, sale, storage and importation of explosives, and the Emergency Gold Mining Assistance Act which provides cost-aid to the Canadian gold mining industry.

Boards and Commissions are: Canadian Board on Geographical Names; Board of Examiners for Dominion Land Surveyors; International Boundary Commission and Interprovincial Boundary Commissions.

Department of National Defence.—The Department of National Defence was established on Jan. 1, 1923, by the Department of National Defence Act, 1922, and was an amalgamation of the Department of Militia and Defence, the Naval Service and the Air Board. The Department and the Canadian Forces (the Royal Canadian Navy, the Canadian Army and the Royal Canadian Air Force) now operate under the National Defence Act, 1950 (R.S.C. 1952, c. 184).

In 1940 additional Ministers for Naval and Air Services were appointed and the Department was organized under a Minister of National Defence and two additional Ministers so that there was a Minister and staff for each of the Armed Services. Upon demobilization of the wartime Forces the appointment of Ministers of National Defence for Naval Services and Air Services ceased, and the Armed Forces were, in 1946, again administered by the Minister of National Defence without additional Ministers. Under the National Defence Act the Canadian Forces are being administered solely by the Minister of National Defence, the appointment of an Associate Minister of National Defence remaining vacant.

The Defence Research Board, created in 1947 to carry out research relating to national defence and to advise the Minister on all relevant matters of a scientific or technical nature, now functions under the National Defence Act. The Chairman of the Board has a status equivalent to that of a Chief of Staff of one of the Canadian Forces.

Department of National Health and Welfare.—This Department was established in October 1944 under the authority of the Department of National Health and Welfare Act (R.S.C. 1952, c. 74). The Department, headed by the Minister of National Health and Welfare, is composed of three branches—Health, Welfare, and Administration—and is administered through two Deputy Ministers.

The Health Branch is divided into three directorates—Health Services, Food and Drugs, and Indian Health Services. It has 14 Divisions active in certain public health fields divided into five main groups—Medical Advisory, Research Development and International Health, Environmental Health, Health Insurance, and Health Grants Administration—each of which is headed by a Principal Medical Officer.

The Welfare Branch is made up of the Divisions of Family Allowances and Old Age Security, Old Age Assistance, and Blind and Disabled Persons Allowances. The Department is also responsible for federal civil defence planning, with the Civil Defence Co-ordinator reporting to both Deputy Ministers. The Administration Branch includes divisions where activities cover both health and welfare fields, such as research, information, legal and library services, as well as administrative, personnel and purchasing and supply services.

National Film Board.—The National Film Board was established in 1939 and the National Film Act (R.S.C. 1952, c. 185) provides for a Board of Governors of nine members—a Government Film Commissioner, appointed by the Governor in Council, who is Chairman of the Board, three members from the public service of Canada and five members from outside the public service. The Board reports to Parliament through a designated Minister of the Crown (at present the Minister of Citizenship and Immigration). The Board is responsible for advising the Governor in Council on film activities and is authorized to produce and distribute films in the national interest and in particular films "designed to interpret Canada to Canadians and to other nations".

National Library.—As a result of the National Library Act proclaimed Jan. 1, 1953, the National Library superseded the Canadian Bibliographic Centre. It continues to publish *Canadiana*, a monthly list of new publications relating to Canada, with a yearly cumulation. The Library also publishes other bibliographies. Its Reference Division maintains the National Union Catalogue which embodies the catalogues of the major libraries in the ten provinces and is a key to the book collections in the whole country. The National Librarian reports to the Minister of Citizenship and Immigration.

Department of National Revenue.—From Confederation until May 1918, customs and inland revenue Acts were administered by separate departments; after that date they were amalgamated under one Minister as the Department of Customs and Inland Revenue. In 1921 the name was changed to the Department of Customs and Excise. In April 1924 collection of income taxes was placed under the Minister of National Revenue and, under the Department of National Revenue Act, 1927, the Department became known as the Department of National Revenue.

The Customs and Excise Division of the Department is responsible for the assessment and collection of customs and excise duties as well as sales and excise taxes, by ports and outposts. The Taxation Division is responsible for the assessment and collection of income taxes and succession duties by 29 district offices throughout Canada.

The Minister of National Revenue is responsible to Parliament for the Income Tax Appeal Board and also reports to Parliament for the Canadian Broadcasting Corporation.

Department of Northern Affairs and National Resources.—The Department of Northern Affairs and National Resources was established in December 1953, superseding the Department of Resources and Development. In addition to Administration Services, which performs auxiliary functions, the Department is divided into seven branches: the National Parks Branch administers the National Parks and National Historic Parks of Canada, National Historic Sites, and wildlife matters coming within the jurisdiction of the Federal Government; the Water Resources Branch is responsible for the investigation of water power resources, for the administration of federal assistance to the provinces under the Canada Water Conservation Assistance Act and for federal interests in certain joint federal-provincial construction projects; the Northern Administration and Lands Branch is responsible for the administration of various federal Acts, Territorial ordinances and regulations pertaining to the government of the Northwest Territories, for the conduct of certain business arising from the general administration of the Yukon Territory, for the administration of natural resources in those Territories, and for Eskimo affairs, as well as for certain lands and mineral rights in the provinces vested in the Crown in the right of Canada; the Forestry Branch conducts investigations in the protection and utilization of the forest resources of Canada, maintains forest experiment stations and forest products laboratories and administers federal assistance to the provinces under the Canada Forestry Act; the Natural History Branch and Human History Branch of the National Museum of Canada are responsible for research, publication of scientific studies, and public exhibitions in their respective fields of natural history and human history; and the Canadian Government Travel Bureau promotes the tourist industry by encouraging tourist travel in Canada.

The Minister of Northern Affairs and National Resources is also responsible to Parliament for the Eastern Rockies Forest Conservation Board, the Northern Canada Power Commission, and the National Battlefields Commission. The Historic Sites and Monuments Board of Canada, an honorary body of recognized historians representing the various provinces, and the Advisory Board on Wildlife Protection act in an advisory capacity to the Minister in those fields. The Deputy Minister is Commissioner of the Northwest Territories.

Post Office Department.—Administration and operation of the Canada Post Office, by virtue of the Post Office Act (R.S.C. 1952, c. 212) and under the Postmaster General, includes all phases of postal activity, personnel, mail handling, postal accommodation, transportation of mails by land, water, rail and air and the direction and control of financial services including the operation of money order and savings bank business.

Public Archives.—The Public Archives was founded in 1872 and is administered under the Public Archives Act (R.S.C. 1952, c. 222) by the Dominion Archivist who has the rank of a Deputy Minister and reports to Parliament through the Minister of Citizenship and Immigration. Its purpose is to assemble and make available to the public a comprehensive collection of historical source material relating to the history of Canada. Major emphasis is placed on official records of the Government and the personal papers of political leaders and other prominent figures. These are supplemented by copies of many records in the British and French archives that relate to Canada, a fine map collection, a historical library, and many prints, paintings and photographs.

Department of Public Printing and Stationery.—This Department was established in 1886 and is in the charge of the Queen's Printer and Controller of Stationery.

The Department is responsible for supplying all requirements of printing and stationery to Parliament and Departments of the Canadian Government; the cataloguing, distribution and sale of government publications; the publication of the *Canada Gazette*, and all departmental reports, papers, etc., required to be published by authority of the Governor General in Council (R.S.C. 1952, c. 226) and the publication of the Statutes of Canada (R.S.C. 1952, c. 230).

The Department of Public Printing and Stationery is under the jurisdiction of the Secretary of State.

Department of Public Works.—This Department was constituted in 1867 and operates under the legislative authority of the Public Works Act and other Acts of Parliament. It is responsible for the management and direction of the public works of Canada and, except as specifically provided in other Acts, attends to the construction and maintenance of public buildings, wharves, piers, roads and bridges and the undertaking of dredging and navigable waters protection work. The Department maintains District Offices at key points across the country. The main operating Branches of the Department with headquarters in Ottawa are Harbours and Rivers Engineering, Building Construction, Development Engineering, Property and Building Management, and Purchasing and Stores. In addition, the Fire Prevention Branch, organized in 1919 and now a part of the Department of Public Works, maintains fire-loss records, makes inspections, reports on fire protection legislation and protection methods and endeavours to extend and co-ordinate fire prevention work in Canada. Federal interests in the Trans-Canada Highway are also handled by the Department.

The Minister of Public Works is responsible to Parliament for the Central Mortgage and Housing Corporation.

Department of the Secretary of State.—The Secretary of State and Registrar General of Canada is the official medium of communication with the Throne through the Governor General, and is the custodian of the Great Seal of Canada and of the Privy Seal of the Governor General. He is responsible for the preparation and tabling of returns in Parliament. He administers legislation relating to patents of invention, trade marks, industrial designs, timber marking, copyright, companies, boards of trade, the registration of trade unions, public officers, public documents and governmental and parliamentary translations. He is also the Custodian of Enemy Property.

The Secretary of State has certain responsibilities with respect to civilian decorations, precedence and ceremonial. The Committee on the use of Parliament Hill and the National War Memorial falls within his purview. He is the Minister of the Department of Public Printing and Stationery and the spokesman in Cabinet and Parliament for the Civil Service Commission and the Chief Electoral Officer.

Department of Trade and Commerce.—The Department of Trade and Commerce was established by Act of Parliament on June 23, 1887, but did not function until Dec. 5, 1892, when an Order in Council to this effect was passed. Before the formation of the Department, assistance in the development of Canada's external trade was provided by eight Canadian Commercial Agents—five in the West Indies, two in Great Britain and one in France—who served on a part-time basis and were responsible to the Minister of Finance. In 1895 a Canadian Commercial Agent was appointed at Sydney, Australia, as the first full-time salaried Agent of the Department.

The framework of the present Trade Commissioner Service emerged during the next decade or so, the Commercial Agents gradually giving place to career Trade Commissioners. There are now 126 Trade Commissioners serving at Headquarters and abroad in 58 posts (including Assistant Trade Commissioners and agricultural, fisheries and timber specialists). Where Trade Commissioners are members of a mission maintained by the Department of External Affairs they hold diplomatic status and are known as Commercial Counsellors or Commercial Secretaries.

The Department provides a wide range of services to Canadian businessmen. It comprises: the Canadian Trade Commissioner Service, Commodities Branch (including the Transportation and Trade Services Division), Agriculture and Fisheries Branch, International Trade Relations Branch, Trade Publicity Branch, Industrial Development Branch, Small Business Branch, Economics Branch, Energy Studies Branch, Standards Branch, International Economic and Technical Co-operation Division and the Canadian Government Exhibition Commission.

The following boards, commissions, Crown corporations and agencies report to Parliament through the Minister of Trade and Commerce—seven of them through his capacity as Chairman of the Privy Council Committee on Scientific and Industrial Research: Board of Grain Commissioners, Canadian Wheat Board, Dominion Bureau of Statistics, Export Credits Insurance Corporation, Northern Ontario Pipe Line Crown Corporation, Atomic Energy Control Board, Atomic Energy of Canada Limited, Canadian Patents and Development Limited, National Research Council, Eldorado Mining and Refining Company Limited, Eldorado Aviation Limited, and Northern Transportation Company Limited.

Department of Transport.—The Department was created on Nov. 2, 1936, from the former Departments of Marine, and Railways and Canals, and the Civil Aviation Branch of the Department of National Defence (R.S.C. 1952, c. 79).

The work of the Department consists of four main Services: Marine, Air, Canals and Railways. The work of the Marine Service includes aids to navigation, nautical and pilotage services, marine agencies, steamship inspection and floating equipment and direct supervision over 300 public harbours; eight other harbours come under supervision of the Department but are administered by commissions. Air Services cover the operation of civil aviation, meteorological and telecommunication branches. The latter includes the administration and regulation of radar, radio marine and radio aeronautical aids to navigation and communication by wire and by government telegraph and telephone. The Canal Service has jurisdiction over the canals and canalized waterways of Canada. These include the main or primary canals on the St. Lawrence River and Great Lakes and a number of subsidiary or secondary canals.

Other services of the Department are in connection with the Government-owned companies: the Canadian National Railways, Hudson Bay Railway, Canadian Government Railways, Canadian National (West Indies) Steamships, and the Prince Edward Island Ferry and Terminals.

The Minister of Transport is responsible to Parliament for the following boards and commissions: the Air Transport Board; Board of Transport Commissioners; Canadian Maritime Commission; National Harbours Board; Park Steamship Company Limited; the St. Lawrence Seaway Authority; the Canadian Overseas Telecommunication Corporation; and Trans-Canada Air Lines.

Department of Veterans Affairs.—This Department, established in 1944 (R.S.C. 1952, c. 80), is concerned exclusively with the welfare of veterans and includes medical, dental and welfare services, land settlement and prosthetic services and insurance. The Veterans' Bureau assists veterans in the preparation and presentation of pension claims.

The Minister of Veterans Affairs is also responsible for the Canadian Pension Commission and the War Veterans Allowance Board. The Department has administrative offices in all the larger cities across Canada and at London, England.

Section 2.—Crown Corporations

The Crown corporation form of public enterprise is not a new type of organization in Canada but in recent years, as the work of government has become more complex, greater reliance has been placed on it as the appropriate instrument for administering and managing many public services in which business enterprise and public accountability must be combined.

The use of the corporate device to harmonize public responsibility in the development of economic resources and the provision of public services with the pursuit of commercial and industrial objectives has led to the adoption of many different forms and formulas of management. The most usual practice has been to set up a corporation under the provisions of a special Act of Parliament which defines its purpose and sets forth its powers and responsibilities. However, during World War II the Minister of Munitions and Supply was authorized to procure the incorporation of companies under the federal Companies Act, 1934, or under any provincial Companies Act to which he might delegate any of the powers conferred on him under the Department of Munitions and Supply Act or any Order in Council. Under this legislation about 28 companies were created to serve a wide variety of purposes; most of these companies have since been wound up.

Following the successful experience during the war years in relying on the Companies Act for the establishment of Crown companies, similar incorporating powers were granted by an amendment to the Research Council Act and have been incorporated in the Atomic Energy Control and the Defence Production Acts.

In 1946 the Government Companies Operation Act was passed to regulate the operation of companies formed under the Companies Act. However, it was applicable only to a relatively small number of companies and, in order to establish a more uniform system of financial and budgetary control and of accounting, auditing and reporting for Crown corporations generally, Part VIII of the Financial Administration Act was enacted in 1951 and brought into operation by proclamation on Oct. 1, 1952. Upon its enactment the financial provisions of the Government Companies Operation Act were repealed.

One of the more interesting features of the later legislation is the attempt that has been made to define and classify Crown corporations.* The Act defines a Crown corporation as a corporation that is ultimately accountable, through a Minister, to Parliament for the conduct of its affairs and establishes three classes of corporation: departmental, agency and proprietary.

Departmental Corporations.—A departmental corporation is defined as a Crown corporation that is a servant or agent of Her Majesty in right of Canada and is responsible for administrative, supervisory or regulatory services of a governmental nature. Ten departmental corporations are listed in Schedule B to the Act:—

Agricultural Stabilization Board (formerly Agricultural Prices Support Board)
Atomic Energy Control Board
Canadian Maritime Commission
Director of Soldier Settlement
The Director, The Veterans' Land Act
Dominion Coal Board
Fisheries Prices Support Board
National Gallery of Canada
National Research Council
Unemployment Insurance Commission.

* Not all Crown corporations are subject to the provisions of the Financial Administration Act. For example, the Canadian Wheat Board, the Bank of Canada and its subsidiary, the Industrial Development Bank, because of the special nature of their functions, are excluded from operations of the Crown corporations Part of the Act and are governed by their own Acts of incorporation, as are such joint enterprises of the Federal and Provincial Governments as the Eastern Rockies Forest Conservation Board and the Halifax Relief Commission. Though not included in the Schedules to the Financial Administration Act, certain provisions of the Act apply to the Northern Ontario Pipe Line Crown Corporation, set up on June 7, 1956, to oversee the building of a cross-country natural gas pipeline. The Canada Council was set up under the Canada Council Act (assented to Mar. 28, 1957) as a Crown corporation but has been declared not an agency of the Crown and hence is not included in the Schedules to the Financial Administration Act.

Agency Corporations.—An agency corporation is defined as a Crown corporation that is an agent of Her Majesty in right of Canada and is responsible for the management of trading or service operations on a quasi-commercial basis or for the management of procurement, construction or disposal activities on behalf of Her Majesty in right of Canada. The following agency corporations are listed in Schedule C to the Financial Administration Act or have been subsequently added to that Schedule by the Governor in Council:—

Atomic Energy of Canada Limited
 Canadian Arsenals Limited
 Canadian Commercial Corporation
 Canadian Patents and Development Limited
 Crown Assets Disposal Corporation
 Defence Construction (1951) Limited
 Federal District Commission (now National Capital Commission)
 National Battlefields Commission
 Northern Canada Power Commission (formerly Northwest Territories Power Commission)
 National Harbours Board
 Park Steamship Company Limited.

Two corporations, Canadian Sugar Stabilization Corporation Limited and Commodity Prices Stabilization Corporation Limited, listed in Schedule C when the Financial Administration Act was proclaimed, have since discontinued operations and surrendered their charters. By an Order in Council of June 15, 1955, the name of the Northwest Territories Power Commission (now Northern Canada Power Commission) was deleted from Schedule D and added to Schedule C effective Apr. 1, 1954.

Proprietary Corporations.—A proprietary corporation is defined as a Crown corporation that (1) is responsible for the management of lending or financial operations, or for the management of commercial or industrial operations involving the production of or dealing in goods and the supplying of services to the public, and (2) is ordinarily required to conduct its operations without Parliamentary appropriations. The following proprietary corporations are listed in Schedule D to the Act or have been subsequently added to that Schedule by the Governor in Council:—

Canadian Broadcasting Corporation
 Canadian Farm Loan Board
 Canadian National (West Indies) Steamships Limited
 Canadian Overseas Telecommunication Corporation
 Central Mortgage and Housing Corporation
 Eldorado Aviation Limited
 Eldorado Mining and Refining Limited
 Export Credits Insurance Corporation
 National Railways, as defined in the Canadian National-Canadian Pacific Act, 1933
 Northern Transportation Company Limited
 Polymer Corporation Limited
 The St. Lawrence Seaway Authority
 Trans-Canada Air Lines.

Departmental corporations are governed by the provisions of the Financial Administration Act that are applicable to departments generally. Agency and proprietary corporations, however, are subject to the provisions of the Crown corporations Part of the Act although, if there is any inconsistency between the provisions of that Part and those of any other Act applicable to a corporation, the Act provides that the latter prevail. There is provision in the Part for the control and regulation of such matters as corporation budgets and bank accounts, the turning over to the Receiver General of surplus money, limited loans for working-capital purposes, the awarding of contracts and the establishment of reserves, the keeping and auditing of accounts, and the preparation of financial statements and reports and their submission to Parliament through the appropriate Minister.

A further form of control is exercised by Parliament through the power to vote financial assistance. This may take different forms. For some corporations, capital may be provided by parliamentary grants, loans or advances that may subsequently be converted into

capital stock or bonds; for others it may be by the issue of capital stock to be subscribed and paid for by the Government; or by the sale of bonds either to the Government or the public. A few corporations have financed all or a portion of their requirements from their own resources or earnings. Under a special financing arrangement a 15-p.c. excise tax charged on radio and television sets and their parts and accessories has been allocated to the revenue of the Canadian Broadcasting Corporation.

Prior to 1952, Crown corporations did not pay corporate income taxes. However the Income Tax Act was later amended so that, in respect of financial years commencing after Jan. 1, 1952, proprietary Crown corporations pay taxes on income earned in the same manner as any privately owned corporation. One desirable result of this amendment is that the financial statements of these Crown companies are now more comparable with those of private industry, with which in some instances they are in competition, and thus it is easier to assess the relative efficiency of their operations.

The functions of the various Crown corporations are given briefly in the following paragraphs. For a number of them further details are included in the Chapters dealing with the subjects concerned (*see* Index).

Agricultural Stabilization Board.—The Board was established in 1958 (S.C. 1957-58, c. 22) to administer the provisions of the Agricultural Stabilization Act, which has replaced the Agricultural Prices Support Act. The Board reports to Parliament through the Minister of Agriculture.

Atomic Energy Control Board.—In December 1946, by Act of Parliament (R.S.C. 1952, c. 11), the regulation and control of atomic energy in Canada were placed under the Atomic Energy Control Board. The Board reports to Parliament through the Chairman of the Committee of the Privy Council on Scientific and Industrial Research.

Atomic Energy of Canada Limited.—This Crown Company was incorporated in February 1952 under the Atomic Energy Control Act, 1946 (R.S.C. 1952, c. 11) to take over from the National Research Council on Apr. 1, 1952, the operation of the Chalk River project. The main functions of the Company are the research into many aspects of atomic energy, the operation of atomic reactors and the extraction, processing and marketing of the by-products of the reactors. The Company reports to Parliament through the Chairman of the Committee of the Privy Council on Scientific and Industrial Research.

Bank of Canada.—Legislation of 1934 (R.S.C. 1952, c. 13) provided for the establishment of a central bank in Canada, the function of which is to regulate credit and currency, to control and protect the external value of the Canadian dollar and to stabilize the level of production, trade, prices and employment so far as may be possible within the scope of monetary action. The Bank acts as the fiscal agent of the Government of Canada, manages the public debt and has the sole right to issue notes for circulation in Canada. The Bank is managed by a Board of Directors appointed by the Government and composed of a Governor, a Deputy Governor and 12 Directors; the Deputy Minister of Finance is also a member of the Board. The Bank reports to Parliament through the Minister of Finance and is governed by its own Act of incorporation. (*See* footnote, p. 104.)

The Canada Council.—Established by Order in Council dated Apr. 15, 1957, this Corporation of 21 members, a Director and an Associate Director operates under the terms of the Canada Council Act, assented to Mar. 28, 1957. Its functions are the encouragement of the arts, humanities and social sciences in Canada. Its work is financed from the earnings of a \$50,000,000 Endowment Fund and a \$50,000,000 University Capital Grants Fund. In the making, managing and disposing of investments under the Act, the Council has the advice of an Investment Committee of five, including the Chairman and another member of the Council. The proceedings of the Council are reported each year to Parliament through the Prime Minister.

Canadian Arsenals Limited.—This Company was established under the Companies Act by Letters Patent dated Sept. 20, 1945, and is subject to the Government Companies Operation Act (R.S.C. 1952, c. 133) and certain provisions of the Financial Administration Act (R.S.C. 1952, c. 116). The Company was set up to take over and operate Crown-owned plant and equipment. Among the items it now manufactures are propellants and explosives, small arms, radar equipment, and a wide variety of ammunition and components. Its divisions, together with the location of their plants, are as follows: Dominion Arsenal Division (Quebec and Val Rose, Que.); Explosives Division (Valleyfield, Que.); Filling Division (St. Paul l'Ermite, Que.); Gun Ammunition Division (Lindsay, Ont.); Small Arms Division (Long Branch, Ont.); Instrument and Radar Division (Scarborough, Ont.). The Company is responsible to Parliament through the Minister of Defence Production.

Canadian Broadcasting Corporation.—Legislation passed in 1936 (R.S.C. 1952, c. 32) provides that there shall be a corporation, to be known as the Canadian Broadcasting Corporation, to consist of a Board of 11 Governors appointed by the Governor in Council and chosen to give representation to the principal geographic divisions of Canada. The Board of Governors determines CBC policy and the Chairman of the Board is required to devote the whole of his time to the performance of his duties under the Act.

The General Manager is the Chief Executive of the Corporation and directs the operations and activities of the Corporation as well as the application of CBC policy as determined by the Board of Governors. He is assisted by regional management representatives located in the principal geographic regions of Canada (Newfoundland, the Maritime Provinces, Quebec, Ontario, the Prairie Provinces and British Columbia), and at Head Office by specialists in Programs, Sales, Operations, Administration, Finance, Engineering and Public Relations. Under the Canadian Broadcasting Act, the Corporation reports to Parliament through a Minister of the Crown (at present the Minister of National Revenue).

Canadian Commercial Corporation.—This Corporation was established on May 1, 1946, by the Canadian Commercial Corporation Act (R.S.C. 1952, c. 35). It purchases goods and commodities in Canada for the governments of other countries. It also acts as purchasing agent for international agencies such as the United Nations International Children's Emergency Fund and the United Nations Korean Reconstruction Agency. Other functions include arranging production and shipment of Canadian contributions of military stores to NATO countries. The Corporation also serves other departments of the Government of Canada. For instance it arranges for the purchase and production of supplies and services which the Department of Trade and Commerce is making available to other countries under the Colombo Plan. In carrying out its functions the Corporation works closely with the Department of Defence Production. It is responsible to Parliament through the Minister of Defence Production.

Canadian Farm Loan Board.—The Board was organized in 1929 to make loans, secured by mortgage, to farmers. The Board is responsible to Parliament through the Minister of Finance.

Canadian Maritime Commission.—The Commission was created in 1947 (R.S.C. 1952, c. 38) to consider and recommend policies and measures necessary for the operation, maintenance, manning and development of a merchant marine and a ship-building and ship-repairing industry. The Commission is responsible to Parliament through the Minister of Transport. (See also Park Steamship Company Limited, p. 110.)

Canadian National Railways.—Under authority of the Statutes of 1919, c. 3, the Canadian National Railway Company was incorporated to operate and manage a national system of railways, including the Canadian Northern Railway System, the Canadian Government Railways and all lines entrusted to it by Order in Council. In 1923 the Grand Trunk Railway Company of Canada was amalgamated with the Canadian National Railway Company and since 1923 a number of railway lines acquired by the Government have been entrusted to the Company for operation and management, including the Newfoundland Railway and steamship services in 1949 and the Temiscouata Railway in 1950. The Canadian National Railways Act, 1919 was repealed in 1955 and the Canadian National Railways Act (1955, c. 29) substituted therefor.

The Canadian National Railway Company is controlled by a Chairman and Board of Directors appointed by the Governor in Council, who report to Parliament through the Minister of Transport.

Canadian National (West Indies) Steamships Limited.—Through the medium of this Crown Company, the Federal Government provides direct steamship services to the West Indies in conformity with the Canada-West Indies Trade Agreement of 1926. The Company is responsible to Parliament through the Minister of Transport.

Canadian Overseas Telecommunication Corporation.—This Crown Company was created on Dec. 10, 1949, by Act of Parliament (R.S.C. 1952, c. 42) to acquire for public operation external telecommunication assets in Canada, in keeping with the Commonwealth Telegraph Agreement, signed May 11, 1943. This Agreement was designed to bring about the consolidation and strengthening of the radio and cable communication systems of the Commonwealth. The Corporation is responsible to Parliament through the Minister of Transport.

Canadian Patents and Development Limited.—Canadian Patents and Development Limited is a Crown Corporation established in 1948, pursuant to authority granted in an amendment to the Research Council Act which was passed in 1946. The primary purpose of the Company is to make available to industry, through licensing arrangements, new processes developed by scientific workers of the National Research Council. Its services are equally available to other Government Departments, publicly supported institutions and universities. The Company also has cross-agency arrangements with similar government agencies in other Commonwealth countries. The Board of Directors is composed of representatives from the National Research Council, from Government Departments and from industry and the universities. Any profits that the Company may derive from licensing arrangements are available for further research and development. The Corporation reports to Parliament through the Chairman of the Committee of the Privy Council on Scientific and Industrial Research (at present the Minister of Trade and Commerce).

* On Nov. 11, 1953 (after this section was set up in print) new legislation covering the regulation of broadcasting in Canada was proclaimed. See Chapter XIX on Communications, under the section, Broadcasting in Canada.

Canadian Wheat Board.—The Board was incorporated under the Canadian Wheat Board Act to market, in an orderly manner, in the interprovincial and export trade, grain grown in Canada. Its powers include authority to buy, take delivery of, store, transfer, sell, ship or otherwise dispose of grain. Except as directed by the Governor in Council, the Board was not originally authorized to buy grain other than wheat, but since Aug. 1, 1949, it may also buy oats and barley. Only grain produced in the designated area, which includes Manitoba, Saskatchewan, Alberta and parts of British Columbia and Ontario, is purchased by the Board, which controls the delivery of grain into elevators and railway cars in that area as well as the interprovincial movement and export of wheat, oats and barley generally. The Board is governed by its own Act of incorporation (*see* footnote, p. 104). It reports to Parliament through the Minister of Trade and Commerce.

Central Mortgage and Housing Corporation.—This Corporation was incorporated by Act of Parliament (R.S.C. 1952, c. 46) in December 1945 to administer the National Housing Acts. Under the National Housing Act, 1954 (2-3 Eliz. II, c. 23, as amended 1956, c. 9, and 1957-58, c. 18), the Corporation insures mortgage loans made by approved lenders for home ownership and rental housing, makes direct loans, provides home improvement and rental guarantees, undertakes jointly with provincial governments the assembly of land and the construction of housing projects, conducts housing research, encourages community planning and owns and manages rental housing units built for war workers and veterans. The Corporation also arranges for and supervises the construction of housing projects on behalf of the Department of National Defence. The Corporation is responsible to Parliament through the Minister of Public Works.

Crown Assets Disposal Corporation.—This Corporation is established under the Surplus Crown Assets Act (R.S.C. 1952, c. 260) and is subject to the Financial Administration Act (R.S.C. 1952, c. 116). In June 1944 War Assets Corporation was established by statute to replace War Assets Corporation Limited which had been incorporated in 1943. In 1949 the name of War Assets Corporation was changed to Crown Assets Disposal Corporation. The Corporation's function is to dispose of surplus Crown assets. It is responsible to Parliament through the Minister of Defence Production.

Defence Construction (1951) Limited.—This Company was established by Letters Patent in 1951 to take over the general undertakings of Defence Construction Limited. The Company carries out all defence construction with the exception of houses and airfield runways and is responsible to Parliament through the Minister of Defence Production.

Director of Soldier Settlement and Director of the Veterans' Land Act.—The Director of Soldier Settlement (under the Act of 1919) is also the Director of the Veterans' Land Act, and in either capacity is legally a corporation sole. For administrative purposes however the programs carried on under both Acts constitute integral parts of the services provided by the Department of Veterans Affairs.

Dominion Coal Board.—The Board, established in 1947 by the Dominion Coal Board Act (R.S.C. 1952, c. 86), has the responsibility of studying and recommending to the Government policies concerning the production, import, distribution and use of coal. The Chairman has the status of a deputy minister and the Board reports to Parliament through the Minister of Mines and Technical Surveys. The Board administers transportation and other subventions relating to coal, including those under the Atlantic Provinces Power Development Act (1958, c. 25). It also administers loans authorized under the Maritime Coal Production Assistance Act (R.S.C. 1952, c. 173). The Dominion Coal Board Act makes provision for the regulation and control of the production, distribution and use of fuel in time of national emergency.

Eastern Rockies Forest Conservation Board.—The Board was appointed in 1947 under the Eastern Rocky Mountain Forest Conservation Act which authorized an agreement between the Government of Canada and the Province of Alberta relating to the protection and conservation of the forests of that area of the eastern slope of the Rocky Mountains which forms part of the watershed of the Saskatchewan River. The function of the Board is to plan, supervise and undertake construction, operation and maintenance of projects and facilities necessary for the proper protection of the forests of the area to obtain the greatest possible flow of water in the Saskatchewan River and its tributaries.

During the first seven years of the agreement, the Federal Government undertook to provide \$6,300,000 for capital expenditure and Alberta to provide funds for maintenance expenditures. During the period of capital expenditure the Federal Government agreed to appoint the chairman and one member and the province one member. After the capital period the arrangement was that the Federal Government appoint one member and that the Government of Alberta appoint two members and name one of the three as chairman. This latter arrangement became effective on Apr. 1, 1955, and the Province of Alberta is now responsible for all future capital and maintenance costs of this area. Under a further amendment made in 1957, an undertaking by the Federal Government to share in certain forest fire fighting costs was deleted, and upon termination of the agreement all property acquired by the Board is to belong to the province. The Board reports to Parliament through the Minister of Northern Affairs and National Resources. (*See* footnote, p. 104.)

Eldorado Aviation Limited.—Incorporated Apr. 23, 1953, to carry air traffic, both passenger and freight, for Eldorado Mining and Refining Limited and its wholly owned subsidiary, Northern Transportation Company Limited, the Company reports to Parliament through the Chairman of the Committee of the Privy Council on Scientific and Industrial Research.

Eldorado Mining and Refining Limited.—Set up in 1944 under the name of Eldorado Mining and Refining (1944) Limited (the date was omitted from the name in June 1952), the Company's business is that of mining and refining uranium ores in Canada. The Company has also entered into contracts for the purchase of uranium concentrates from private producers in Canada. It reports to Parliament through the Chairman of the Committee of the Privy Council on Scientific and Industrial Research.

Export Credits Insurance Corporation.—This Company commenced operations in 1945 under the Export Credits Insurance Act, 1944 (R.S.C. 1952, c. 105) and is administered by a Board of Directors (including the Deputy Minister of Trade and Commerce, the Deputy Minister of Finance and the Governor of the Bank of Canada) with the advice of an Advisory Council. Its function is to insure Canadian exporters against non-payment by foreign buyers arising out of credit and political risks involved in foreign trade. The Corporation reports to Parliament through the Minister of Trade and Commerce.

Fisheries Prices Support Board.—The Board was set up in July 1947 (R.S.C. 1952, c. 120) to recommend to the Government price support measures when severe price declines occur. The Board functions under the direction of the Minister of Fisheries and consists of a Chairman, who is a senior officer of the Department of Fisheries, and five members chosen from private and co-operative firms in the industry. The Board has authority to buy fishery products and to sell or otherwise dispose of them or to pay producers the difference between a price prescribed by the Board and the average price the product actually commands.

Halifax Relief Commission.—The Commission, a joint enterprise of the Legislature of Nova Scotia (Statutes of N.S., 1918, c. 61) and the Parliament of Canada (Statutes of Canada, 1918, c. 24), was incorporated to administer relief funds contributed for the assistance of sufferers in consequence of the disastrous explosion at Halifax, Dec. 17, 1917. (See footnote, p. 104.)

Industrial Development Bank.—The Bank, a subsidiary of the Bank of Canada, was incorporated in 1944 to provide loans to industrial enterprises where financing is not available through recognized lending organizations. (See footnote, p. 104.)

National Battlefields Commission.—This Commission was established by Act of Parliament in 1908 to preserve the historic battlefields at Quebec City. The Commission is composed of nine members, seven being appointed by the Federal Government and one each by the Provinces of Ontario and Quebec. The Commission is supported by an annual statutory grant from the Federal Government and is responsible to Parliament through the Minister of Northern Affairs and National Resources.

National Capital Commission.—This Commission had its genesis in the Ottawa Improvement Commission established by Parliament in 1899 to improve and beautify the National Capital by the construction of parks and driveways and to co-operate with the Ottawa municipal authorities in local improvement and conservation works. In 1927 the name was changed to Federal District Commission, its scope of operations widened to include areas adjacent to Ottawa, and its membership increased from four to ten.

In 1946 the Commission became the federal agency responsible for carrying out the National Capital Plan, the long-range master plan for the development of the Capital and its 900-sq. mile region. The membership was increased to 20 to permit the appointment of Commissioners resident in each of the provinces. A National Capital Planning Committee was appointed to act as the permanent honorary advisory body to the Commission on the preparation and implementation of the plan. In 1958 Parliament passed the National Capital Act, reconstituting the organization as the National Capital Commission, and revising the former Act to enable the Commission to discharge more effectively its duties in connection with the preparation of plans for, and assistance in, the development and improvement of the National Capital Region. The region was enlarged from 900 to 1,800 sq. miles.

The Commission carries out its own planning projects and is the federal agency through which joint projects are carried out with local municipal and provincial authorities. Funds for projects are made available by Parliament through a National Capital Fund, established in 1948, and through government loans.

The Commission has built and maintains over 1,000 acres of parks and 24 miles of urban driveways, and in addition landscapes and maintains the grounds of the federal public buildings and national institutions. It is also responsible for the 75,000-acre Gatineau Park in the Laurentian Hills north of the Capital.

Commission approval is required for the location, siting and exterior design of all federal buildings in the region, or for alterations to existing structures.

National Gallery of Canada.—The National Gallery of Canada was founded in 1880. By Act of Parliament in 1913 and re-enacted in 1951 it was placed under the management of a Board of Trustees appointed by the Governor General in Council and now operates under the National Gallery Act (R.S.C. 1952, c. 186). It is responsible to Parliament through a Minister of the Crown (at present the Minister of Citizenship and Immigration).

The first charge of the National Gallery is the development and care of the national art collections. Other important services are the arrangement of loans and exhibitions from abroad and from its own holdings for showing in Canada and abroad, the promotion of good industrial design and general extension work consisting of the distribution of reproductions for educational purposes, lectures, educational tours, publications, school broadcasts and art films.

National Harbours Board.—The Board was established by Act of Parliament in 1936. It is responsible for the administration of port facilities at Halifax, Saint John, Chicoutimi, Quebec, Trois Rivières, Montreal, Vancouver and Churchill, the Jacques Cartier and Champlain bridges at Montreal Harbour, and the Government grain elevators at Prescott and Port Colborne, Ont. The Board is responsible to Parliament through the Minister of Transport.

National Research Council.—In 1917 the Research Council Act was passed and in 1928 laboratories for scientific research were established at Ottawa. The National Research Council now has Divisions of Pure and Applied Chemistry, Building Research, Mechanical Engineering, Radio and Electrical Engineering, Pure and Applied Physics, Applied Biology and Medical Research. Regional laboratories have been established at Saskatoon, Sask., and Halifax, N.S.

Patentable processes and improvements developed by the Council are made available under licence to industry through a Crown company, Canadian Patents and Development Limited, and any profits from the licensing arrangements are used for further research and development.

The Minister of Trade and Commerce as Chairman of the Privy Council Committee on Scientific and Industrial Research is responsible to Parliament for the National Research Council.

Northern Canada Power Commission.—The Commission was established by Act of Parliament in 1948 to bring electric power to points in the Northwest Territories where a need developed and where power could be provided on a self-sustaining basis. The Act was amended in 1950 to give authority to the Commission to provide similar services in Yukon Territory; the name of the Commission, formerly Northwest Territories Power Commission, was changed in 1956. The Commission is composed of a Chairman and two members appointed by the Governor in Council. It operates hydro-electric plants on the Snare River in the Northwest Territories and on the Mayo River in Yukon Territory and diesel-electric plants at Fort Smith and Fort Simpson, N.W.T. Additional plants are under construction at Whitehorse, Yukon and Inuvik, N.W.T. The Minister of Northern Affairs and National Resources reports to Parliament for the Commission.

Northern Transportation Company Limited.—This Company was incorporated in 1947 under the title of Northern Transportation Company (1947) Limited, the date being omitted from the name in 1952. Previously a company chartered under an Alberta statute, it has been a wholly owned subsidiary of Eldorado Mining and Refining Limited since that Crown company was established and carries out the business of a common carrier in the Mackenzie River watershed. The Company is responsible to Parliament through the Chairman of the Committee of the Privy Council on Scientific and Industrial Research.

Northern Ontario Pipe Line Crown Corporation.—This Corporation was established by the Northern Ontario Pipe Line Crown Corporation Act (S.C. 1956, c. 10) for the purpose of constructing the northern Ontario section of the all-Canadian natural gas pipeline and of leasing, with an option to purchase, this section to Trans-Canada Pipe Lines Limited. In addition, the Corporation was authorized to make short-term loans to Trans-Canada Pipe Lines Limited for the construction of the western section of the pipeline. The Corporation is responsible to Parliament through the Minister of Trade and Commerce.

Pipeline installation on the northern Ontario section, which extends from the Manitoba-Ontario border to the vicinity of Kapuskasing, Ont., was completed on Oct. 22, 1958.

Park Steamship Company Limited.—After World War II this Company acted as an agent for Crown Assets Disposal Corporation in the sale and delivery to purchasers of Government war-built ships. This work is completed but the Company remains available to carry out any appropriate duties. It has no staff of its own, any necessary work being done by the staff of the Canadian Maritime Commission (see p. 107). The Company reports to Parliament through the Minister of Transport.

Polymer Corporation Limited.—This Corporation was established in 1942 by Letters Patent under the Companies Act and is subject to the Government Companies Operation Act (R.S.C. 1952, c. 133) and the Financial Administration Act (R.S.C. 1952, c. 116). It was set up to construct

and operate a synthetic rubber plant which now produces a variety of synthetic rubber products and some chemicals. The plant is located at Sarnia, Ont. The Company is responsible to Parliament through the Minister of Defence Production.

St. Lawrence Seaway Authority.—The St. Lawrence Seaway Authority was established by Act of Parliament in 1951 (R.S.C. 1952, c. 242) and came into force by proclamation on July 1, 1954. The Authority is incorporated for the purposes of constructing, maintaining and operating all such works as may be necessary to provide and maintain, either wholly in Canada or in conjunction with works undertaken by an appropriate authority in the United States, a deep waterway between the Port of Montreal and Lake Erie. The Authority is composed of a President, a Vice-President and a Member and reports to Parliament through the Minister of Transport.

Trans-Canada Air Lines.—TCA came into being by Act of Parliament in 1937 (R.S.C. 1952, c. 268) to provide for the development of a publicly owned scheduled transcontinental air service. Transatlantic air services were inaugurated by TCA on behalf of the Canadian Government during World War II and scheduled operations were commenced at the end of the War. TCA now maintains passenger, mail and commodity traffic services over nationwide routes and also services to the United States, England, Scotland, Ireland, France, Belgium, Switzerland, West Germany, Bermuda, the Bahamas, Jamaica, Barbados and Trinidad. TCA is responsible to Parliament through the Minister of Transport.

Unemployment Insurance Commission.—The Commission was appointed on Sept. 24, 1940, under the provisions of the Unemployment Insurance Act, 1940 (R.S.C. 1952, c. 273) for the purpose of administering the Act and providing a National Employment Service. It is composed of three Commissioners, appointed by the Governor in Council, of whom one shall be Chief Commissioner. One Commissioner, other than the Chief Commissioner, shall be appointed after consultation with organizations representative of workers and the other after consultation with organizations representative of employers. The Chief Commissioner shall be appointed to hold office for a period of ten years and each of the other Commissioners shall be appointed to hold office for a period not exceeding ten years. The Commission is responsible to Parliament through the Minister of Labour.

Section 3.—Acts Administered by Federal Departments*

List of the Principal Acts of Parliament Administered by Departments of the Government of Canada

NOTE.—Copies of individual Acts of Parliament and amendments may be obtained from the Queen's Printer, Ottawa, at prices of from 10 cents to \$1.50 per copy according to number of pages. Where duplications of certain Acts appear in the list, parts of these Acts are administered under the Departments given.

Department, Year and Chapter of Statute	Name of Act	Department, Year and Chapter of Statute	Name of Act
Agriculture— R.S.C. 1952	4 Agricultural Products Board	Agriculture—concl. R.S.C. 1952 214	Prairie Farm Rehabilitation
5	Agricultural Products Co-operative Marketing	248	Seeds
6	Agricultural Products Marketing	294	Wheat Co-operative Marketing
9	Animal Contagious Diseases	1953-54 51	Criminal Code, Sect. 178, Race
22, 305	Canada Dairy Products	27	Track Betting
47	Cheese and Cheese Factory Improvement	1955	Canada Agricultural Products Standards
52, 313	Cold Storage	36	Meat Inspection
66	Department of Agriculture	1957-58 22	Agricultural Stabilization
81	Destructive Insect and Pest		
101	Experimental Farm Stations	Auditor General— R.S.C. 1952 116	Financial Administration
113	Feeding Stuffs		
115	Fertilizers	Citizenship and Immigration—	
126	Fruit, Vegetables and Honey	1924 48	Indian Reserve Lands in Ontario
141	Hay and Straw Inspection	1927 37	St. Regis Indian Reservation
155	Inspection and Sale	1934 29	Caughnawaga Indian Reserve
167	Live Stock and Live Stock Products	1943 19	British Columbia Indian Reserves
168	Live Stock Pedigree		Mineral Resources
172	Maple Products Industry	R.S.C. 1952 33	Canadian Citizenship
175	Maritime Marshland Rehabilitation	67	Department of Citizenship and Immigration
177	Meat and Canned Foods	146	Immigration Aid Societies
180	Milk Test	149	Indian
209	Pest Control Products	325	Immigration
213	Prairie Farm Assistance		

* Compiled from information supplied by the respective Departments.

List of the Principal Acts of Parliament Administered by Departments of the Government of Canada—continued

Department, Year and Chapter of Statute	Name of Act	Department, Year and Chapter of Statute	Name of Act
Civil Service Commission— R.S.C. 1952 48	Civil Service	Fisheries— R.S.C. 1952 61	Deep Sea Fisheries
Defence Production— R.S.C. 1952 35	Canadian Commercial Corporation	69	Department of Fisheries
62	Defence Production	118	Fish Inspection
260	Surplus Crown Assets	119	Fisheries
External Affairs— 1911 28	Respecting the International Boundary Waters Treaty and the existence of the International Joint Commission (amended 1914 c. 5, and 1922 c. 43)	120	Fisheries Prices Support
1948 71	Carrying into effect the Treaties of Peace between Canada and Italy, Rumania, Hungary and Finland	121	Fisheries Research Board
R.S.C. 1952 50	Carrying into effect the Treaty of Peace between Canada and Japan	177	Meat and Canned Foods
68	Department of External Affairs	194	Northern Pacific Halibut Fishery (Convention)
122	Food and Agriculture Organization of the United Nations	244	Salt Fish Board
142	High Commissioner of the United Kingdom	252	Sockeye Salmon Fisheries (Con- vention)
218	Privileges and Immunities (NATO)	293	Whaling Convention
219	Privileges and Immunities (United Nations)	1952-53 15	Coastal Fisheries Protection
275	United Nations	44	North Pacific Fisheries Conven- tion
1953-54 54	Diplomatic Immunities (Common- wealth Countries)	1953-54 18	Northwest Atlantic Fisheries Con- vention
Finance—		1955 34	Great Lakes Fisheries Convention
	Appropriation (Annual)	1957 31	The Pacific Fur Seals Convention
R.S.C. 1952 12	Bank	Insurance— R.S.C. 1952 31	Canadian and British Insurance [*] Companies
13	Bank of Canada	49	Civil Service Insurance
15	Bills of Exchange	70	Department of Insurance
19	Bretton Woods Agreements	100	Excise Tax (Part I)
36, 309	Canadian Farm Loan	125	Foreign Insurance Companies
82	Diplomatic Service (Special) Superannuation	170	Loan Companies
110	Farm Improvement Loans	251	Small Loans
116	Financial Administration	272	Trust Companies
131	Gold Export	296	Winding-up (Part III)
151, 326	Industrial Development Bank	1952-53 28	Co-operative Credit Associations
156	Interest	Justice— 1940 43	Treachery
182	Municipal Grants	R.S.C. 1952 1	Admiralty
183	Municipal Improvements Assist- ance	14	Bankruptcy
204	Pawnbrokers	28	Canada Prize
221	Provincial Subsidies	71	Department of Justice
232	Quebec Savings Banks	98	Exchequer Court
245	Satisfied Securities	106	Expropriation
261, 336	Tariff Board	111	Farmers' Creditors Arrangement
296	Winding-up	116	Financial Administration
315	Currency, Mint and Exchange Fund	127	Fugitive Offenders
1952-53 47	Public Service Superannuation	144	Identification of Criminals
1953-54 28	Fire Losses Replacement Accounts	154	Inquiries
1955 31	Canadian National Railways Re- funding	158	Interpretation
46	Fisheries Improvement Loans	159	Judges
1956 1	Prairie Grain Producers Interim Financing	160	Juvenile Delinquents
2	Temporary Wheat Reserves	171	Lord's Day
29	Federal-Provincial Tax Sharing Agreements	198	Official Secrets
		206	Penitentiary
		210	Petition of Right
		217, 333	Prisons and Reformatories
		234	Railway
		241	Royal Canadian Mounted Police
		253	Solicitor General
		266	Tobacco Restraint
		259, 335	Supreme Court
		299	Yukon Administration of Justice
		307	Canada Evidence
		314	Combines Investigation
		322	Extradition
		1952-53 530	Crown Liability
		1953-54 51	Criminal Code
		1958 38	Parole
		Labour— 1927 110	Conciliation and Labour
		R.S.C. 1952 72	Department of Labour
		1958 108	Fair Wages and Hours of Labour

List of the Principal Acts of Parliament Administered by Departments of the Government of Canada—continued

Department, Year and Chapter of Statute	Name of Act	Department, Year and Chapter of Statute	Name of Act
Labour—concl.		National Revenue—	
R.S.C. 1952 132	Government Annuities	<i>Taxation—concl.</i>	
134	Government Employees Compensation	1944 21	Canada-U.S. Tax Convention
152	Industrial Relations and Disputes Investigation	1950 27	(Income Tax)
178	Merchant Seamen Compensation	1956 35	
236	Reinstatement in Civil Employment	1945 31	Canada-U.S. Tax Convention
286	Vocational Training Co-ordination	1950 27	(Succession Duties)
295	White Phosphorous Matches	1946 38	Canada-U.K. Income Tax Agreement
1952-53 19	Canada Fair Employment Practices	39	Canada-U.K. Succession Duty Agreement
1955 50	Unemployment Insurance	1948 34	Canada-N.Z. Income Tax Agreement
1956 38	Female Employees Equal Pay	1951 40	Canada-France Income Tax Convention
1957-58 24	Annual Vacations	1952 18	Canada-France Succession Duty Convention
		1951 41	Canada-Sweden Income Tax Agreement
		42	
Mines and Technical Surveys—		R.S.C. 1952 89	Dominion Succession Duty
1951 26	Canada Lands Survey	317	
R.S.C. 1952 73	Department of Mines and Technical Surveys	1957 22	Estate Tax
95, 318	Emergency Gold Mining Assistance	1958 29	
102	Explosives	R.S.C. 1952 148	
		1953 40	
		1954 57	
		1955 54	Income Tax
		55	
National Defence—		1956 39	
R.S.C. 1952 63	Defence Services Pension	1957 29	
184	National Defence	1958 32	
283	Visiting Forces (British Commonwealth)	1955 10	Canada - Ireland Income Tax Agreement
284	Visiting Forces (North Atlantic Treaty)	11	Canada - Ireland Succession Duties Agreement
		1956 5	Canada - Denmark Income Tax Agreement
National Health and Welfare—		33	Canada - Germany Income Tax Agreement
R.S.C. 1952 74	Department of National Health and Welfare	1957 16	Canada-Netherlands Income Tax Agreement
<i>National Health—</i>		17	Canada - South Africa Death Duties Agreement
R.S.C. 1952 29	Canada Shipping (Part V, Sick Mariners and Marine Hospitals)	18	Canada - South Africa Income Tax Agreement
165	Leprosy	1958 27	Canada - Australia Income Tax Agreement
201	Opium and Narcotic Drug		
220	Proprietary or Patent Medicine		
229	Public Works Health		
231	Quarantine		
1952-53 38	Food and Drugs	<i>Customs and</i>	
1957 28	Hospital Insurance and Diagnostic Services	<i>Excise—</i>	
		R.S.C. 1952 58	Customs
<i>Welfare—</i>		60	Customs Tariff (amended by 316)
R.S.C. 1952 17	Blind Persons	75	Department of National Revenue
109	Family Allowances	99	Excise (amended by 319)
199	Old Age Assistance	100	Excise Tax (amended by 320)
200	Old Age Security		
1953-54 55	Disabled Persons	<i>Administered in</i>	
1957-58 20	Unemployment Assistance	<i>Part—</i>	
		R.S.C. 1952 54	United States Treaty (smuggling)
		2	Aeronautics (amended by 302)
		9	Animal Contagious Diseases
		11	Atomic Energy Control
		22	Canada Dairy Products (amended by 305)
		29	Canada Shipping
		30	Canada Temperance
		44	Canadian Wheat Board
		55	Copyright
		59	Customs and Fisheries Protection
		81	Destructive Insect and Pest
		102	Explosives
		103	Export
		113	Feeding Stuffs
National Library—			
R.S.C. 1952 330	National Library		
National Revenue—			
<i>Taxation—</i>			
1940 32			
1941 15			
1942 26	Excess Profits Tax		
1943 13			
1944 38			
1945 19			

List of the Principal Acts of Parliament Administered by Departments of the Government of Canada—continued

Department, Year and Chapter of Statute	Name of Act	Department, Year and Chapter of Statute	Name of Act
National Revenue— Administered in Part—concl. R.S.C. 1952	114 Ferries	Northern Affairs and National Resources—concl. R.S.C. 1952	192 National Wild Life Week
115 Fertilizers		196 Northern Canada Power Com- mission	
118 Fish Inspection		224 Public Lands Grants	
119 Fisheries		263 Territorial Lands	
123 Food and Drugs		300 Yukon Placer Mining	
126 Fruit, Vegetables and Honey		301 Yukon Quartz Mining	
128 Game Export		331 Northwest Territories	
131 Gold Export		1952-53 21 Canada Water Conservation As- sistance	
135 Government Harbours and Piers		39 Historic Sites and Monuments	
145 Immigration (amended by 325)		53 Yukon	
147 Importation of Intoxicating Liquors		1953-54 4 Department of Northern Affairs and National Resources	
155 Inspection and Sale		1955 47 International River Improvements	
167 Live Stock and Live Stock Pro- ducts		1957 25 Atlantic Provinces Power Develop- ment	
168 Live Stock Pedigree		Post Office— R.S.C. 1952	212 Post Office
169 Live Stock Shipping		Public Archives— R.S.C. 1952	222 Public Archives
172 Maple Products Industry		Public Printing and Stationery— R.S.C. 1952	226 Public Printing and Stationery
177 Meat and Canned Foods		230 Publication of Statutes	
187 National Harbours Board		Public Works— R.S.C. 1952	91 Dry Docks Subsidies
193 Navigable Waters Protection		106 Expropriation	
194 Northern Pacific Halibut Fishery (Convention)		114 Ferries	
201 Opium and Narcotic Drug		138 Government Works Tolls	
205 Pelagic Sealing (Provisional Agreement)		193 Navigable Waters Protection, Part I	
209 Pest Control Products		216 Prime Minister's Residence	
212 Post Office		228 Public Works	
215 Precious Metals Marking		269 Trans-Canada Highway	
220 Proprietary or Patent Medicine		324 Government Property Traffic	
231 Quarantine		Secretary of State— R.S.C. 1929	55 Reparation Payment
233 Radio		1947 24 Trading with the Enemy (Transi- tional Powers)	
248 Seeds		1948 71 Italy, Rumania, Hungary and Finland Treaties of Peace	
271 Transport		R.S.C. 1952 18 Boards of Trade	
292 Weights and Measures		23, 306 Canada Elections	
295 White Phosphorous Matches		30 Canada Temperance	
1953-54 27 Export and Import Permits		53 Companies	
51 Criminal Code		54 Companies Creditors Arrangement	
Northern Affairs and National Resources— 1908 57, 58		55 Copyright	
1927 51 National Battlefields at Quebec		62 Defence Production	
R.S.C. 1927 87 Seed Grain		77 Department of State	
88 Seed Grain Sureties		83 Disfranchising	
116 Railway Belt		87 Dominion Controverted Elections	
124 Manitoba Supplementary Provi- sions		149 Indian	
180 Saskatchewan and Alberta Roads		195 Northwest Territories	
211 Railway Belt Water		203 Patent	
1928 32 Lac Seul Conservation		208 Pension Fund Societies	
1930 3 Alberta Natural Resources		223 Public Documents	
29 Manitoba Natural Resources		225 Public Officers	
37 Railway Belt and Peace River Block		234 Railway	
41 Saskatchewan Natural Resources		235 Regulations	
1932 35 Refunds (Natural Resources)		247 Seals	
55 Waterton - Glacier International Peace Park		263 Territorial Lands	
1939 33 Rainy Lake Watershed Emergency Control			
1947 59 Eastern Rocky Mountain Forest Conservation			
R.S.C. 1952 24 Canada Forestry			
90 Dominion Water Power			
128 Game Export			
162 Land Titles			
179 Migratory Birds Convention			
189 National Parks			

List of the Principal Acts of Parliament Administered by Departments of the Government of Canada—concluded

Department, Year and Chapter of Statute	Name of Act	Department, Year and Chapter of Statute	Name of Act
Secretary of State— concluded		Transport—concl.	
R.S.C. 1952 265	Timber Marking	42	Port Alberni Harbour Commis- sioners
267	Trade Unions	1948 10	New Westminster Harbour Com- missioners Refunding
270	Translation Bureau	1950 1	Maintenance of Railway Operation
295	White Phosphorous Matches	R.S.C. 1952 2, 302	Aeronautics
298	Yukon	16	Bills of Lading
307	Canada Evidence	20	Bridges
1952-53 49	Trade Marks and Unfair Com- petition	29	Canada Shipping
Trade and Commerce—		34	Belleville Harbour Commissioners
R.S.C. 1952 11	Atomic Energy Control	38	Canadian Maritime Commission
25	Canada Grain	39	Canadian National — Canadian Pacific
44	Canadian Wheat Board	42	Canadian Overseas Telecommuni- cation Corporation
78	Department of Trade and Com- merce	45	Carriage by Air
92	Electrical and Photometric Units	79	Department of Transport
94	Electricity Inspection	135	Government Harbours and Piers
103	Export	136	Government Railways
105	Export Credits Insurance	137	Government Vessels Discipline
129	Gas Inspection	157	International Rapids Power De- velopment
140	Grain Futures	168	Live Stock Shipping
163	Inland Water Freight Rates	174	Maritime Freight Rates
164	Length and Mass Units	187	National Harbours Board
191	National Trade Mark and True Labelling	193	Navigable Waters Protection
215	Precious Metals Marking	202	Passenger Tickets
239	Research Council	211	Pipe Lines
257	Statistics	233	Radio
292	Weights and Measures	244	Railway
1953-54 27	Export and Import Permits	242	St. Lawrence Seaway Authority
1955 14	Exportation of Power and Fluids and Importation of Gas	262	Telegraphs
1956 1	Prairie Grain Producers Interim Financing	268	Trans-Canada Air Lines
2	Temporary Wheat Reserves	271	Transport (Board of Transport Commissioners)
10	Northern Ontario Pipe Line Crown Corporation	276	United States Wreckers
1957 2	Prairie Grain Advance Payments	291	Water Carriage of Goods
	Auditors for National Railways (Annual)	311	Canadian National Railways Capital Revision
	Canadian National Railways Fi- nancing and Guarantee (Annual)	1955 29	Canadian National Railways
1907 22	Intercolonial Railway and Prince Edward Island Railway Em- ployees Provident Fund	31	Canadian National Refunding
1911 26	Toronto Harbour Commissioners	Veterans Affairs—	
1912 55	Winnipeg and St. Boniface Harbour Commissioners	1920 54	Returned Soldiers' Insurance
98	Hamilton Harbour Commissioners	R.S.C. 1927 188	Soldier Settlement
1913 168	New Westminster Harbour Com- missioners	1936 47	Veterans' Assistance Commission
162	North Fraser Harbour Com- missioners	R.S.C. 1952 8	Allied Veterans Benefits
1927 29	Canadian National (West Indies) Steamship Company	51, 312	Civilian War Pensions and Allow- ances
R.S.C. 1927 211	Railway Belt Water	80	Department of Veterans Affairs
1929 4	Canadian National Railways Pen- sions	117	Fire Fighters War Service Benefits
11	Canadian National Refunding	207, 332	Pension (amended 1953-54, c. 62; 1957-58, c. 19)
12	Canadian National Montreal Ter- minals	256	Special Operators War Service Benefits
43	Northern Alberta Railways	258	Supervisors War Service Benefits
1931 19, 20	Beauharnois Light, Heat and Power	279, 338	Veterans Insurance
40	New Westminster Harbour Loan	280	Veterans' Land (amended 1953-54, c. 60)
1940 20	Beauharnois Light, Heat and Power	281	Veterans Rehabilitation
1947 26	Beauharnois Light, Heat and Power	289	War Service Grants (amended 1953-54, c. 46)
		297	Women's Royal Naval Services and the South African Military Nursing Service (Benefits)
		340	War Veterans Allowance (amended 1955, c. 13; 1957-58, c. 7)
		1952-53 27	Children of War Dead (Education Assistance) (amended 1953-54, c. 2)
		1953-54 65	Veterans Benefit (amended 1955, c. 43)

PART IV.—FEDERAL GOVERNMENT EMPLOYMENT

The Civil Service Commission.—The Federal Civil Service comprises, in the widest sense, all servants of the Crown—other than those holding political or judicial office—who are employed in a civil capacity and whose remuneration is paid wholly and directly from moneys voted by Parliament. Collectively they form the staffs of the various departments, commissions, boards, bureaux and other agencies of the Federal Government. Nearly every category of occupation is represented in the Civil Service. A few civil servants are appointed by one or both Houses of Parliament directly and a considerable number are appointed by departments and other agencies in accordance with the provisions of certain statutes, generally with executive approval of the Governor in Council. The remainder, by far the majority, are selected and appointed by the Civil Service Commission of Canada.

The Civil Service Commission as the central personnel agency of the Federal Government is the custodian of the merit principle in respect of both initial appointments and promotions. The steps by which the Commission came to be established in its present form constitute the record of Civil Service reform in Canada which began a year after Confederation and culminated in the passing of the Civil Service Act of 1918.

Recruitment.—The recruitment of civil servants is conducted by means of open competitive examination through which every citizen has the right to compete for positions in the service of his country. Examinations are held periodically as the staff requirements of the public service dictate. Any Canadian citizen may apply for headquarters positions open at Ottawa but applicants for local positions must normally be residents of the locality in which the vacancy occurs. Competitive examinations are announced through the press and through posters displayed on the public notice boards of post offices, offices of the National Employment Service, offices of the Civil Service Commission, and elsewhere. The examinations may be written, oral, a demonstration of skill, or any combination of these.

The names of persons successful in Civil Service examinations, arranged in order of rank, are recorded on eligible lists. Examination results are formally announced by publication in the *Canada Gazette* and each candidate—successful or unsuccessful—is advised of his standing. Appointments are made as required from the eligible lists which usually remain valid for one year.

The rank of the various successful candidates on eligible lists is influenced by the 'veterans' preference'. Actually the preference is limited largely, in accordance with its definition by law, to members of the Armed Forces who have served overseas in World War I or II or in the Korean theatre of operations. The highest order of preference is the 'disability preference' accorded to pensioners of the Armed Forces who as a result of their war service are unable to resume their prewar civilian occupations.

In recent years the Civil Service Commission has decentralized its operations and now has ten district offices and six sub-offices across the country. The Commission is granting an increasing measure of autonomy and responsibility to these offices to permit more efficient service to field agencies.

Staff Training.—In 1947 the Commission set up a Staff Training Division to promote and guide a systematic service-wide training scheme. The training scheme, sponsored by the Commission, is a joint venture undertaken in co-operation with Federal Government departments most of which have parallel training divisions. The Commission's Training Division is primarily a co-ordinating agency. It promotes and organizes activities, trains departmental instructors in the presentation of courses, prepares and on occasion gives courses of general application to all departments, publishes booklets and other training aids, assists departments in developing training to meet specialized needs, and acts as a general clearing-house for the exchange of information on training matters.

Promotion.—It is a prime objective of the Civil Service Act to create a career service. The result is that promotion, like entrance to the Service, is based on merit and a sound promotion system is developing. The present procedure involves the consideration of

three factors: efficiency of candidates in their present positions, fitness for the vacant positions, and seniority or length of service. Appeal machinery under Commission jurisdiction has been set up for those employees who feel that their qualifications have not been properly assessed.

Position Classification and Compensation.—Provision is made in the Civil Service Act for the classifying of positions in the public service. A system of position classification was instituted in 1919 and positions with like duties and responsibilities were classified alike and remunerated equally. Each position has a title, a set of tasks or duties which are proper to it in the organization in which it occurs and, arising out of these duties, a set of qualifications appropriate for their performance. Positions with duties of similar kind are grouped together under a common title to form a class and grades within the class reflect the level of responsibility.

The determination of rates of compensation for each class is a continuing responsibility of the Commission and salary and wage surveys are conducted constantly through its Pay Research Bureau which compiles objective and current information concerning levels of pay within and without the Public Service for the use not only of the Commission but also of the Government and the employees concerned. Position classification is a main-spring in the Commission's primary function of recruitment, involving the fixing of standards of qualification for each class of position.

Organization and Methods.—In recent years there has been an increasing awareness of the extent to which economical administration depends on the adoption of modern management techniques and devices. In 1948 the Commission set up an Organization and Methods Service to study problems of management in collaboration with officials directly responsible for major areas of administration. Briefly, this Service affords practical assistance to departments and other agencies of the Government through the systematic examination of structure, operations, procedures and work methods. Its growing facilities are offered free of charge to all departments.

Statistics of Federal Government Employment.*—The current monthly survey of Federal Government employment, started in 1952, is intended to cover all employees of the Government of Canada; employees in this sense exclude Members of Parliament, judges, persons under contract and members of the Armed Forces, but include Force members of the Royal Canadian Mounted Police. This survey is much more inclusive than the previous statistical series entitled "Civil Service of Canada" and comparisons between the two sets of figures should be made only after very careful study.

The survey is divided into two main portions: (1) departmental branches, services and corporations, and (2) agency and proprietary corporations and other quasi-independent government bodies.

Departmental Branches, Services and Corporations.—Employees in this group are covered in Tables 1 to 4; their salaries are paid from the Consolidated Revenue Fund. Definitions of classifications are as follows. "Salaried" employees include all persons paid on the basis of an annual salary rate with the exception of ships' officers who, though paid an annual salary rate, are subject to special treatment under the regulations made pertaining to the Financial Administration Act. The salaried staff are employed in departmental branches, services and corporations which are subject to regulation by the Treasury Board and for which the positions are outlined in detail in the Estimates of Canada, or are established by means of supplementary Treasury Board Minutes. Thus this group of employees includes persons who are subject to the provisions of the Civil Service Act plus salaried persons employed on the staffs of Cabinet Ministers and appointed by Statute or by Order in Council, and also the salaried staffs of certain administrative branches of the Government that do not fall under the jurisdiction of the Civil Service Act.

* Prepared in the Public Finance and Transportation Division, Dominion Bureau of Statistics.

"Prevailing Rate" employees are those who occupy continuing positions that are subject to prevailing rate legislation and are therefore paid on the basis of the going salary for similar work in the area in which the individual is employed. Regulations made under authority of the Financial Administration Act govern the third group entitled "Ships' Officers and Crews".

These three groups comprise what may be called the "regular" employees of the government service. "Casuals and Others" are persons employed on a non-continuing basis.

1.—Employees in Departmental Branches, Services and Corporations of the Federal Government, by Month, Years Ended Mar. 31, 1957 and 1958

NOTE.—Includes departments, boards, commissions, etc., listed in Tables 3 and 4 but excludes certain Federal Government agency and proprietary corporations, etc., figures for which are given in Table 5.

Fiscal Year and Month	Salaried	Prevailing Rate	Ships' Officers and Crews	Total	Casuals and Others
	No.	No.	No.	No.	No.
1956-57—					
April.....	143,246	24,103	1,998	169,347	11,760
May.....	143,525	24,729	2,178	170,432	13,125
June.....	143,462	26,502	2,268	172,232	14,877
July.....	143,809	26,393	2,557	172,759	16,728
August.....	144,364	25,992	2,483	172,839	16,516
September.....	144,301	25,064	2,405	171,770	15,489
October.....	144,937	24,039	2,410	171,386	14,569
November.....	145,501	23,787	2,289	171,577	13,663
December.....	145,815	23,729	2,220	171,764	12,307
January.....	146,903	23,760	2,245	172,908	12,114
February.....	147,238	23,296	2,174	172,708	11,902
March.....	148,000	23,309	2,242	173,551	11,720
1957-58—					
April.....	148,404	24,580	2,435	175,419	10,741
May.....	149,670	25,821	2,523	178,014	12,218
June.....	149,519	28,623	2,601	180,743	12,141
July.....	..	..	..	..	..
August.....	..	..	..	..	..
September.....	150,096	25,734	2,604	178,434	12,092
October.....	151,491	24,818	2,636	178,945	12,796
November.....	151,758	24,904	2,547	179,209	12,338
December.....	151,949	24,249	2,375	178,573	12,507
January.....	152,771	24,218	2,187	179,176	13,769
February.....	153,276	24,315	2,126	179,717	13,764
March.....	153,759	24,520	2,274	180,553	14,837

2.—Earnings of Employees in Departmental Branches, Services and Corporations of the Federal Government, by Month, Years Ended Mar. 31, 1957 and 1958

NOTE.—Includes departments, boards, commissions, etc., listed in Tables 3 and 4 but excludes certain Federal Government agency and proprietary corporations, etc., figures for which are given in Table 5.

Fiscal Year and Month	Salaried	Prevailing Rate	Ships' Officers and Crews	Total	Casuals and Others
REGULAR EARNINGS					
1956-57	\$	\$	\$	\$	\$
April.....	39,809,093	4,962,818	469,859	45,240,570	2,249,179
May.....	40,213,988	5,601,996	517,465	46,333,449	2,731,515
June.....	40,250,545	5,572,553	529,164	46,352,262	2,850,147
July.....	40,343,641	5,586,076	600,690	46,530,407	3,292,619
August.....	40,569,768	5,848,688	612,733	47,031,189	3,526,106
September.....	40,635,376	5,222,526	606,919	46,464,821	3,002,362
October.....	41,000,693	5,506,163	623,123	47,129,979	2,940,525
November.....	41,128,177	5,416,088	591,419	47,135,684	2,714,402
December.....	41,178,025	5,117,591	597,188	46,892,804	2,288,083
January.....	41,506,926	5,404,280	597,849	47,508,755	2,565,358
February.....	41,579,237	5,290,066	552,253	47,422,161	2,318,432
March.....	41,735,587	5,089,170	571,025	47,395,782	2,330,159

2.—Earnings of Employees in Departmental Branches, Services and Corporations of the Federal Government, by Month, Years Ended Mar. 31, 1957 and 1958—concluded

Fiscal Year and Month	Salaried	Prevailing Rate	Ships' Officers and Crews	Total	Casuals and Others
OVERTIME EARNINGS					
1956-57—concluded	\$	\$	\$	\$	\$
April.....	158,164	209,480	20,838	388,482	49,735
May.....	219,209	248,287	21,672	489,168	83,836
June.....	260,788	306,567	16,244	583,599	89,415
July.....	202,434	302,718	20,539	525,691	107,012
August.....	216,385	276,145	26,845	519,375	130,853
September.....	209,745	269,432	29,250	508,427	113,383
October.....	250,444	241,433	22,470	514,397	93,013
November.....	268,459	297,151	22,645	588,255	78,292
December.....	278,357	329,119	15,256	622,732	55,416
January.....	541,539	291,874	20,499	853,912	57,592
February.....	2,158,755 ¹	280,145	14,027	2,452,927	50,622
March.....	329,706	265,525	34,998	630,229	60,558
REGULAR EARNINGS					
1957-58	\$	\$	\$	\$	\$
April.....	42,053,659	5,391,630	611,045	48,056,334	2,069,983
May.....	44,977,101	5,916,772	651,326	51,545,199	2,502,001
June.....	45,157,462	5,835,822	675,841	51,669,125	2,570,180
July.....	..	..	..	..	..
August.....	..	..	..	..	..
September.....	45,784,331	5,749,297	729,799	52,263,427	2,693,494
October.....	46,329,717	5,768,802	750,679	52,849,198	2,856,106
November.....	46,426,981	5,781,424	700,180	52,908,585	2,632,878
December.....	46,482,018	5,743,158	628,859	52,854,035	2,569,443
January.....	46,856,988	6,117,925	583,519	53,558,432	2,839,774
February.....	46,991,506	5,379,849	562,781	52,934,136	2,699,740
March.....	47,039,672	5,709,615	597,198	53,346,485	3,084,016
OVERTIME EARNINGS					
	\$	\$	\$	\$	\$
April.....	193,202	290,039	19,437	502,678	60,466
May.....	377,489	299,652	22,425	699,566	80,822
June.....	343,687	301,546	33,630	678,863	93,387
July.....	..	..	..	..	..
August.....	..	..	..	..	..
September.....	349,761	299,433	49,118	698,312	99,769
October.....	408,665	303,096	42,659	754,420	84,368
November.....	523,346	297,762	35,293	856,401	70,900
December.....	597,159	246,784	37,778	881,721	68,268
January.....	630,441	252,325	20,574	903,340	67,251
February.....	2,285,869 ¹	268,010	40,907	2,594,786	76,380
March.....	286,566	306,107	42,309	634,982	110,637

¹ Includes Christmas overtime pay of Post Office employees.

Table 3 presents statistics for departmental branches, services and corporations on the basis of a classification by function. The purpose of such classification is to supply a means of studying the operation of governments without the complication that results from differences in administrative establishment. This analysis is useful in three ways. First, it permits a detailed study of employment by the Government of Canada according to the main purposes or functions and, since these functions are not subject to the periodic changes that alter the administrative structure of the government, it is possible to develop a statistical series which, with minor exceptions, is consistent over an extended period of time. Secondly, since differences in administrative establishment are eliminated, it is possible to make meaningful comparisons between Federal Government expenditures on employment and similar expenditures by other levels of government. Thirdly, an analysis of the relationship between expenditures on employment and total expenditures may be made with regard to each function.

3.—Federal Government Employees as at Mar. 31, 1958, and Regular Earnings for the Year Ended Mar. 31, 1958, classified by Function

Note.—Excludes certain Federal Government agency and proprietary corporations, etc., figures for which are given in Table 5.

Function	Salaried		Prevailing Rate		Ships' Officers and Crews		Totals		Casuals and Others	
	Em- ployees	Earnings ¹ \$'000	Em- ployees	Earnings ¹ \$'000	Em- ployees	Earnings ¹ \$'000	Em- ployees	Earnings ¹ \$'000	Em- ployees	Earnings ¹ \$'000
Defence Services	35,266	95,156.5	14,940	33,245.7	567	1,451.2	50,773	134,853.4	5,875	13,661.4
Veterans' Pensions and Other Benefits	11,843	34,476.3	1,668	2,283.3	—	—	13,516	36,459.6	—	—
General Government	28,877	86,615.9	2,913	5,636.3	—	—	31,790	92,252.2	429	597.4
Executive and administrative.....	26,655	79,650.9	2,913	5,636.3	—	—	29,568	85,287.2	392	588.0
Legislative ²	623	2,248.0	—	—	—	—	623	2,248.0	—	—
Research, planning and statistics.....	1,599	4,717.0	—	—	—	—	1,599	4,717.0	37	9.4
Protection of Persons and Property	3,902	31,873.3	2	3.6	—	—	9,904	31,876.9	—	3.9
Law enforcement ³	132	867.9	—	—	—	—	1,152	6,667.9	—	—
Corrections.....	1,912	6,542.0	2	3.6	—	—	1,914	6,345.7	—	—
Police protection.....	6,915	21,553.9	—	—	—	—	6,915	21,553.9	—	—
Other.....	923	3,469.4	—	—	—	—	923	3,469.4	4	3.9
Transportation and Communications	10,271	32,410.5	1,030	2,848.6	1,394	4,152.8	12,695	39,116.9	2,607	4,034.3
Airways.....	4,182	13,410.1	332	855.6	—	—	4,534	14,265.7	1,026	1,191.1
Highways, roads and bridges.....	198	709.7	22	126.1	—	—	220	918.8	64	110.7
Railways.....	153	743.4	—	—	—	—	153	743.4	—	—
Telephone, telegraph and wireless.....	2,012	6,534.3	13	45.4	—	—	2,028	6,639.7	120	191.4
Waterways.....	3,288	9,125.9	640	1,821.5	1,394 ⁴	4,152.8 ⁵	5,302	15,100.2	1,397	2,541.1
Other.....	458	1,459.1	—	—	—	—	458	1,459.1	—	—
Health	2,019	6,575.3	701	1,131.4	12	33.4	2,732	7,740.1	223	349.0
General.....	344	1,056.1	4	9.6	—	—	348	1,065.7	4	0.1
Public health.....	634	2,419.3	42	91.1	12	33.4	688	2,543.8	4	9.1
Medical, dental and allied service.....	45	115.8	7	6.1	—	—	52	121.9	1	5.8
Hospital care.....	996	2,934.1	643	1,024.6	—	—	1,644	4,008.7	218	334.0

Social Welfare	9,229	25,919.7	3	8.3	—	—	9,222	25,919.0	2,750	2,547.9
Aid to aged persons.....	19	69.3	—	—	—	—	19	69.3	—	—
Family allowances.....	843	2,101.3	—	—	—	—	843	2,101.3	—	—
Labour.....	369	1,339.1	—	—	—	—	369	1,339.1	—	2.8
National employment services.....	7,329	20,165.0	3	8.3	—	—	7,332	20,173.3	2,736	2,545.1
Other social welfare.....	669	2,236.0	—	—	—	—	669	2,236.0	—	—
Recreational and Cultural Services	1,394	4,560.5	1,545	2,628.0	—	—	2,939	7,188.5	833	1,144.3
Archives, art galleries, museums and libraries.....	242	786.0	5	15.3	—	—	247	801.3	28	30.7
Parks, beaches and other recreational areas.....	464	1,264.8	1,540	2,612.7	—	—	2,004	3,877.5	761	790.9
Other.....	688	2,509.7	—	—	—	—	688	2,509.7	44	322.7
Education	1,309	4,503.6	—	—	—	—	1,309	4,503.6	144	171.3
Indian and Eskimo schools and schools in N.W.T.....	1,300	4,465.8	—	—	—	—	1,300	4,465.8	144	171.3
Universities, colleges and other schools.....	9	37.8	—	—	—	—	9	37.8	—	—
Natural Resources and Primary Industries	11,327	41,985.1	1,374	3,922.3	301	853.8	13,002	46,761.2	808	1,554.4
Fish and game.....	1,475	5,196.5	35	250.6	301	853.8	1,811	6,300.9	67	154.0
Forests.....	736	2,792.5	67	225.8	—	—	803	3,018.3	14	35.0
Land—settlement and agriculture.....	6,780	24,204.2	1,110	2,983.3	—	—	7,890	27,187.5	337	1,032.8
Minerals and mines.....	977	4,471.1	65	208.5	—	—	1,042	4,679.6	6	6
Water resources.....	193	778.8	3	30.2	—	—	193	809.0	8	10.2
Other.....	1,166	4,542.0	94	223.9	—	—	1,280	4,765.9	3827	322.47
Trade and Industrial Development	948	2,973.3	45	160.0	—	—	993	3,133.3	—	—
Public Service and Trading Enterprises	155	404.6	—	—	—	—	155	404.6	35	98.4
Other	31,214	91,248.8	299	526.8	—	—	31,513	91,775.6	1,153	2,355.3
Civil defence.....	132	463.3	34	64.6	—	—	166	527.9	4	2.6
International co-operation and assistance.....	104	475.8	—	—	—	—	104	475.8	8	8
Immigration and citizenship.....	2,762	7,957.7	138	300.1	—	—	2,900	8,257.8	37	129.5
External Affairs.....	1,822	5,434.8	99	43.5	—	—	1,921	5,478.3	15	18.8
Bullion and coinage.....	185	637.7	—	—	—	—	185	637.7	—	—
Post Office.....	23,615 ⁹	66,437.2 ⁹	25	108.8	—	—	23,640	66,546.0	605 ¹⁰	516.3 ¹⁰
Other.....	2,594	9,842.3	3	9.8	—	—	2,597	9,852.1	496	1,688.1
Grand Totals	153,759	458,099.4	24,520	57,394.3	2,274	6,491.2	150,553	521,984.9	14,837	26,517.6

¹ Regular earnings are for ten months only; statistics were not tabulated for the months of July and August 1957.

² Excludes the Governor General and ten Lieutenant-Governors with salaries amounting to \$139,667 annually.

³ Excludes 325 judges with salaries amounting to \$4,698,000 annually.

⁴ No employment at year end.

⁵ Excludes field parties with earnings of \$819,384.

⁶ Excludes field parties with earnings of \$317,303.

⁷ Excludes 14,439 Post Office employees paid from postal revenues with earnings of \$21,204,329.

⁸ Excludes field parties with earnings of \$21,225.

⁹ Excludes 14,439 Post Office employees paid from postal revenues with earnings of \$21,204,329.

¹⁰ In addition, casual helpers received payments amounting to \$2,333,765 for service during the 1957 Christmas season.

4.—Federal Government Employees as at Mar. 31, 1958, and Regular Earnings for the Year Ended Mar. 31, 1958, classified by Department and Principal Branch or Service

NOTE.—Excludes certain Federal Government agency and proprietary corporations, etc., figures for which are given in Table 5.

Department and Branch or Service	Salaried		Prevailing Rate		Ships' Officers and Crews		Totals		Casuals and Others	
	Em- ployees	Earnings ¹ \$'000	Em- ployees	Earnings ¹ \$'000	Em- ployees	Earnings ¹ \$'000	Em- ployees	Earnings ¹ \$'000	Em- ployees	Earnings ¹ \$'000
Agriculture.	No.		No.		No.		No.		No.	
Administration Service.....	6,300	22,855.0	1,113	2,988.0	—	—	7,413	25,843.0	347	1,055.3
Science Service.....	1,215	683.3	4	12.3	—	—	219	705.6	2	0.5
Experimental Farms Service.....	1,391	5,363.4	52	138.2	—	—	1,443	5,501.6	26	62.9
Production Service.....	1,210	4,359.6	837	2,305.1	—	—	2,056	6,664.7	—	—
Marketing Service.....	1,862	6,748.3	39	103.7	—	—	1,901	6,852.0	105	234.6
Special.....	1,006	3,500.4	2	5.0	—	—	1,008	3,505.4	2	5.7
	607	2,190.0	179	493.7	—	—	786	2,613.7	214	751.6
Atomic Energy—Atomic Energy Control Board.....	6	26.1	—	—	—	—	6	26.1	—	—
Auditor General's Office.....	133	611.4	—	—	—	—	133	611.4	—	—
Chief Electoral Office.....	89	160.1	—	—	—	—	89	160.1	—	—
Citizenship and Immigration.	4,312	13,331.9	97	244.3	—	—	4,409	13,576.2	187	275.3
Departmental Administration.....	130	421.7	1	2.4	—	—	131	424.1	—	—
Citizenship.....	155	492.8	—	—	—	—	155	492.8	—	—
Immigration Branch.....	2,142	6,005.3	96	241.9	—	—	2,238	6,247.2	21	79.7
Indian Affairs Branch.....	1,829	6,243.2	—	—	—	—	1,829	6,243.2	144	171.2
National Gallery of Canada.....	56	168.9	—	—	—	—	56	168.9	22	24.4
Civil Service Commission.....	638	2,133.1	—	—	—	—	638	2,133.1	1	4.6
Defence Production.....	1,427	4,922.2	—	—	—	—	1,427	4,922.2	—	—
External Affairs.	1,840	5,528.3	99	43.5	—	—	1,939	5,571.8	15	18.9
Departmental Administration.....	950	3,082.9	—	—	—	—	950	3,082.9	—	—
Passport Office Administration.....	36	90.5	—	—	—	—	36	90.5	—	—
Representation abroad.....	838	2,272.5	99	43.5	—	—	937	2,316.0	15	18.9
International Joint Commission.....	16	82.4	—	—	—	—	16	82.4	—	—
Finance.	5,053	14,081.0	—	—	—	—	5,053	14,081.0	287	292.5
General Administration.....	4,614	12,660.8	—	—	—	—	4,614	12,660.8	287	292.5
Administration of various Acts.....	411	1,298.3	—	—	—	—	411	1,298.3	2	24.3
Contingencies and miscellaneous.....	18	40.2	—	—	—	—	18	40.2	—	—
Special.....	10	81.7	—	—	—	—	10	81.7	—	—

	1,379	4,301.4	35	250.6	301	853.8	1,715	5,905.8	53	147.1
Fisheries.										
General Service.....	154	552.0	—	33	—	762.3	154	552.0	—	109.1
Field Service.....	754	2,435.0	33	240.9	251	28.3	1,038	3,438.2	34	15.2
Special.....	31	100.9	2	3.2	13	28.3	43	132.4	2	22.8
Fisheries Research Board of Canada.....	440	1,713.5	2	6.5	37	63.2	479	1,783.2	19	—
Governor General and Lieutenant-Governors—										
Office of the Secretary to the Governor General.....	13	43.4	—	—	—	—	13	43.4	—	—
Insurance.	89	384.4	—	—	—	—	89	384.4	—	—
Justice.	2,181	7,374.5	2	3.6	—	—	2,183	7,378.1	—	3.9
Department ^a	269	1,032.4	—	—	—	—	269	1,032.4	2	3.9
Office of the Commissioner of Penitentiaries.....	1,912	6,342.1	2	3.6	—	—	1,914	6,345.7	—	—
Labour.	7,927	22,143.1	10	23.5	—	—	7,937	22,166.6	2,746	2,555.3
General Administration.....	540	1,791.0	—	—	—	—	540	1,791.0	2	10.2
Special Services.....	28	84.2	7	15.2	—	—	35	99.4	—	0.1
Vocational Training Co-ordination.....	9	37.8	—	—	—	—	9	37.8	—	—
Government Employees Compensation.....	21	65.0	—	—	—	—	21	65.0	—	—
Unemployment Insurance Commission.....	7,329	20,165.1	3	8.3	—	—	7,332	20,173.4	2,726	2,545.0
Legislation.	521	2,044.5	—	—	—	—	521	2,044.5	—	—
The Senate.....	93	361.7	—	—	—	—	93	361.7	—	—
House of Commons.....	363	1,469.5	—	—	—	—	363	1,469.5	—	—
Library of Parliament.....	65	213.3	—	—	—	—	65	213.3	—	—
Mines and Technical Surveys.	2,008	8,831.8	69	220.3	49	166.4	2,126	9,218.5	—	—
Administration Services.....	179	633.5	2	9.0	—	—	181	642.5	—	—
Surveys and Mapping Branch.....	872	3,538.5	1	2.0	49 ^a	166.4 ^a	872	3,706.9	6	6
Geological Survey of Canada.....	319	1,700.1	2	8.0	—	—	321	1,708.1	7	7
Mines Branch.....	480	2,143.6	61	191.5	—	—	541	2,335.1	8	8
Geographical Branch.....	42	298.3	—	—	—	—	42	268.3	—	—
Dominion Observatories.....	99	482.9	3	9.8	—	—	102	492.7	—	—
Dominion Coal Board.....	17	64.9	—	—	—	—	17	64.9	—	—
National Defence.	33,841	90,243.0	14,940	38,245.7	1,67	1,451.2	49,348	129,939.9	5,875	13,661.4
Defence Services—										
Departmental Administration.....	648	2,158.3	15	27.5	—	—	663	2,185.8	—	—
Inspection Services.....	1,437	4,815.9	59	108.0	—	—	1,496	4,923.9	—	—
Navy.....	6,919	18,550.2	4,086	11,492.0	567	1,450.6	11,573	31,492.8	1,231	3,561.7
Air.....	12,924	32,326.0	5,488	14,708.1	—	—	18,412	47,034.1	2,094	4,842.3
Defence Research and Development.....	9,497	23,541.0	5,012	11,092.7	2	0.6	14,509	34,633.7	2,340	4,761.1
General Services—War Museum.....	2,414	8,842.9	280	817.4	—	—	2,694	9,660.9	210	496.3
	2	8.7	—	—	—	—	2	8.7	—	—
National Film Board.	688	2,509.7	—	—	—	—	688	2,509.7	44	322.7
National Health and Welfare.	3,402	10,446.0	769	1,236.7	12	33.4	4,133	11,716.1	289	401.3
Departmental Administration.....	302	888.4	4	9.5	—	—	306	867.9	—	—
National Health Branch.....	2,101	6,919.9	731	1,162.5	12	33.4	2,844	8,115.8	289	398.7
Welfare Branch.....	867	2,204.4	—	—	—	—	867	2,204.4	2	—
Civil Defence.....	132	463.3	34	64.7	—	—	166	528.0	—	2.6

For footnotes, see end of table, p. 125.

4.—Federal Government Employees as at Mar. 31, 1953, and Regular Earnings for the Year Ended Mar. 31, 1953, classified by Department and Principal Branch or Service—concluded

Department and Branch or Service	Salaried		Prevailing Rate		Ships' Officers and Crews		Totals		Casuals and Others	
	Em- ployees	Earnings ¹ \$'000	Em- ployees	Earnings ¹ \$'000	Em- ployees	Earnings ¹ \$'000	Em- ployees	Earnings ¹ \$'000	Em- ployees	Earnings ¹ \$'000
National Research Council	No. 2,323	8,906.2	—	—	No. —	—	No. 2,323	8,906.2	No. 480	1,680.8
National Revenue	15,258	48,717.8	—	—	—	—	15,258	48,717.8	—	—
Customs and Excise Divisions.....	7,717	26,068.6	—	—	—	—	7,717	26,068.6	—	—
Taxation Division.....	7,528	22,578.6	—	—	—	—	7,528	22,578.6	—	—
Income Tax Appeal Board.....	13	70.6	—	—	—	—	13	70.6	—	—
Northern Affairs and National Resources	1,786	5,972.4	1,700	3,090.6	—	—	3,486	9,063.0	1,173	1,144.6
Departmental Administration.....	149	481.5	—	—	—	—	149	481.5	—	—
Northern Research Co-ordination Centre.....	8	35.1	—	—	—	—	8	35.1	—	—
National Parks Branch.....	527	1,519.8	1,540	2,612.8	—	—	2,067	4,132.6	775	797.7
Water Resources Branch.....	175	707.8	3	30.2	—	—	178	738.0	8	10.2
Northern Administration and Lands Branch.....	444	1,480.0	93	221.8	—	—	537	1,701.8	382	322.4
Forestry Branch.....	334	1,296.7	64	221.0	—	—	398	1,517.7	4	12.5
National Museum of Canada.....	57	215.5	2	4.8	—	—	57	220.3	4	1.8
Canadian Government Travel Bureau.....	92	236.0	—	—	—	—	92	236.0	—	—
Post Office	23,615	66,437.1	25	108.8	—	—	23,640	66,545.9	605	516.3
Departmental Administration.....	201	1,003.1	—	—	—	—	201	1,003.1	—	—
Operations.....	22,831 ^a	63,924.8 ^a	25	108.8	—	—	22,856	64,033.6	605 ^a	516.3 ^a
Transportation.....	99	369.0	—	—	—	—	99	369.0	—	—
Financial Services.....	394	1,140.2	—	—	—	—	394	1,140.2	—	—
Privy Council	113 ^u	353.4 ^u	—	—	—	—	113 ^u	353.4 ^u	—	—
Privy Council Office.....	92	330.0	—	—	—	—	92	330.0	—	—
Prime Minister's Residence.....	2	11.5	—	—	—	—	2	11.5	—	—
Public Archives and National Library	127	394.4	5	10.5	—	—	132	404.9	2	4.6
Public Archives.....	94	299.4	5	10.5	—	—	99	309.9	2	4.6
National Library.....	33	95.0	—	—	—	—	33	95.0	—	—
Public Printing and Stationery	562	1,540.4	1,112	3,130.0	—	—	1,674	4,670.4	—	—

Public Works	5,223	14,030.3	1,834	2,069.2	147	533.4	7,304	17,282.9	773	1,986.6
General Administration.....	3,274	4,696.7	—	—	—	—	1,274	4,696.7	1	1.2
Public Buildings Construction and Services.....	3,857	8,733.5	1,801	2,506.3	—	—	6,558	11,237.8	103	289.7
Harbours and Rivers Engineering Services.....	85	276.8	11	36.8	147	533.4	243	896.0	605	1,585.0
Development Engineering Services.....	107	324.3	22	126.1	—	—	129	450.4	64	110.7
Royal Canadian Mounted Police	6,915	21,553.9	—	—	—	—	6,915	21,553.9	—	—
Secretary of State	671	2,404.1	—	—	—	—	671	2,404.1	—	—
Trade and Commerce	3,897	12,213.9	45	160.0	—	—	3,942	12,373.9	72	107.8
General Administration.....	850	2,753.9	—	—	—	—	850	2,753.9	—	—
Exhibitions.....	37	120.4	45	160.0	—	—	82	280.4	—	—
Standards Branch.....	373	1,356.2	—	—	—	—	373	1,356.2	—	—
Dominion Bureau of Statistics.....	1,571	4,633.4	—	—	—	—	1,571	4,633.4	37	9.4
Board of Grain Commissioners.....	1,029	3,215.0	—	—	—	—	1,029	3,215.0	35	98.4
Special.....	37	135.0	—	—	—	—	37	135.0	—	—
Transport	9,474	28,928.3	997	2,655.7	1,198	3,403.0	11,969	35,017.0	1,938	2,338.6
Departmental Administration.....	471	1,543.5	—	—	—	—	471	1,543.5	—	—
Canal Services.....	1,068	3,137.7	413	1,225.4	37	110.4	1,518	4,473.5	598	695.1
Marine Services.....	1,558	3,386.3	216	559.3	1,161	3,292.6	2,335	7,238.2	194	261.0
Railway and Steamship Services.....	6	20.0	—	—	—	—	6	20.0	—	—
Air Services.....	6,142	19,805.9	368	901.0	—	—	6,510	20,706.9	1,146	1,382.5
Air Transport Board.....	52	188.4	—	—	—	—	52	188.4	—	—
Board of Transport Commissioners for Canada.....	153	743.4	—	—	—	—	153	743.4	—	—
Canadian Maritime Commission.....	24	103.1	—	—	—	—	24	103.1	—	—
Veterans Affairs	11,848	34,176.3	1,608	2,283.3	—	—	13,516	36,459.6	—	—
Departmental Administration.....	538	1,673.9	2	4.6	—	—	536	1,678.5	—	—
District Services.....	638	1,854.8	127	310.3	—	—	765	2,165.1	—	—
Veterans' Welfare Services.....	732	2,545.0	—	—	—	—	732	2,545.0	—	—
Treatment Services.....	8,171	22,036.5	1,539	1,968.4	—	—	9,710	24,004.9	—	—
Prosthetic Services.....	210	682.9	—	—	—	—	210	682.9	—	—
Veterans' Bureau.....	132	454.2	—	—	—	—	132	454.2	—	—
War Veterans' Allowance Board.....	26	94.4	—	—	—	—	26	94.4	—	—
Veterans' Insurance.....	18	54.1	—	—	—	—	18	54.1	—	—
Veterans' Pension Commission.....	405	1,558.8	—	—	—	—	405	1,558.8	—	—
Soldier Settlement and Veterans' Land Act.....	923	3,221.7	—	—	—	—	923	3,221.7	—	—
Grand Totals	153,759	458,099.4	24,520	57,394.3	2,274	6,401.2	180,553	521,984.9	14,837	26,517.6

¹ Regular earnings are for ten months only; statistics were not tabulated for the months of July and August, 1957.

² No employment at year end.

³ Includes

⁴ Excludes 325 judges with

⁵ Excludes field parties

⁶ Excludes 325 judges with

⁷ Excludes field parties

⁸ Excludes 325 judges with

⁹ Excludes field parties

¹⁰ Includes 21 employees of

¹¹ Includes 21 employees of

¹² Includes 21 employees of

¹³ Includes 21 employees of

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Agency and Proprietary Corporations and Other Quasi-independent Government Bodies.—Statistics of this group of persons employed by the Federal Government are presented in Table 5. The activities included in this category are as follows:—

Atomic Energy of Canada Limited	Eldorado Mining and Refining Limited
Bank of Canada	Export Credits Insurance Corporation
Canadian Arsenals Limited	Federal District Commission
Canadian Broadcasting Corporation	Hudson Bay Railway
Canadian Commercial Corporation	Industrial Development Bank
Canadian Farm Loan Board	National Harbours Board
Canadian National Railways	Northern Canada Power Commission
Canadian National (West Indies) Steamships Limited	Northern Ontario Pipe Line Crown Corporation
Canadian Overseas Telecommunication Corporation	Northern Transportation Company (1947) Limited
Canadian Patents and Development Limited	Office of the Custodian
Canadian Wheat Board	Polymer Corporation Limited
Central Mortgage and Housing Corporation	Prince Edward Island Car Ferry
Crown Assets Disposal Corporation	St. Lawrence Seaway Authority
Defence Construction Limited	Trans-Canada Air Lines
Eldorado Aviation Limited	

In order to avoid the disclosure of details concerning the operation of any of these agencies the statistics are published in summary form only.

5.—Employees and Earnings in Agency and Proprietary Corporations and Other Quasi-independent Federal Government Bodies, by Month, Years Ended Mar. 31, 1957 and 1958

Month	1956-57		1957-58	
	Employees	Earnings	Employees	Earnings
	No.	\$'000	No.	\$'000
April.....	145,258	41,180	146,228	44,915
May.....	149,462	43,082	150,325	46,467
June.....	153,519	45,665	153,378	47,421
July.....	159,670	47,042	156,629	50,468
August.....	158,685	47,695	156,941	50,360
September.....	156,244	47,660	154,622	48,919
October.....	154,324	49,728	150,893	48,988
November.....	151,530	46,572	146,206	47,572
December.....	150,217	45,961	141,029	44,898
January.....	148,920	46,004	135,841	44,328
February.....	145,983	46,178	137,050	44,557
March.....	145,909	45,212	136,146	43,967

PART V.—CANADA'S EXTERNAL RELATIONS

The growth of Canada's international status is reflected in the development of the Department of External Affairs. A review of the organization and development of that Department is given in the 1952-53 Year Book, pp. 101-104.

Section 1.—Diplomatic Representation as at Sept. 1, 1958

NOTE.—Changes in this listing subsequent to Sept. 1, 1958 and names of current Representatives are given in *Canadian Representatives Abroad and Representatives of Other Countries in Canada*, published quarterly and obtainable from the Queen's Printer, Ottawa, price 35 cents.

1.—Canadian Representation Abroad

Country and Year Representation Established	Present Status of Representative	Address
Argentina.....1941	Ambassador.....	Bartolomé Mitre, 478, Buenos Aires
Australia.....1939	High Commissioner.....	State Circle, Canberra
Austria.....1952	Ambassador.....	Karntnering 5, Vienna
Belgium.....1939	Ambassador.....	35, rue de la Science, Brussels
Brazil.....1941	Ambassador.....	Avenida Presidente Wilson, 165, Rio de Janeiro
Burma.....1958	Ambassador.....	c/o Office of the High Commissioner for Canada, Kuala Lumpur, Malaya, (P.O. Box 990)

1.—Canadian Representation Abroad—continued

Country and Year Representation Established	Present Status of Representative	Address
Ceylon.....1953	High Commissioner.....	6 Gregory's Road, Cinnamon Gardens, Colombo
Chile.....1942	Ambassador.....	Avenida General Bulnes 120, Santiago
Columbia.....1953	Ambassador.....	Rm. 613 Edificio Henry Faux, Avenida Jimenez de Quesada 7-25, Bogota
Cuba.....1945	Ambassador.....	Edificio Ambar Motors, Avenida Menocal No. 16, Havana
Czechoslovakia.....1943	Chargé d'Affaires <i>ad interim</i> ...	Krakovská 22, Prague, 2
Denmark.....1946	Ambassador.....	4 Trondhjems Plads, Copenhagen
Dominican Republic.....1954	Ambassador.....	415 Calle El Conde, Ciudad Trujillo
Finland.....1949	Minister.....	Borgmasterbrinken C-3. 32, Helsinki
France.....1928	Ambassador.....	35, avenue Montaigne, Paris VIII
Germany.....1950	Ambassador.....	Zitellmannstrasse 22, Bonn
Ghana.....1957	High Commissioner.....	E 115/3 Independence Avenue (Dodowah Road), Accra
Greece.....1943	Ambassador.....	31, avenue Vassilissia Sofias, Athens
Haiti.....1954	Ambassador.....	Route du Canape Vert, St. Louis de Turgeau, Port-au-Prince
Iceland.....1949	Minister.....	c/o Canadian Embassy, Fridtjof Nansens Plass 5, Oslo, Norway
India.....1947	High Commissioner.....	4 Aurangzeb Road, New Delhi
Indonesia.....1953	Ambassador.....	Djalal Budi Kemuliaan No. 6, Djakarta
Ireland.....1940	Ambassador.....	92 Merrion Square West, Dublin
Israel.....1954	Ambassador.....	Farmers' Bldg., 8 Rehov Hakirya, Tel Aviv
Italy.....1947	Ambassador.....	Via G. B. de Rossi, 27, Rome
Japan.....1929	Ambassador.....	16 Omote - Machi, 3 - Chome, Akasaka Minato-ku, Tokyo
Lebanon.....1954	Ambassador.....	Immeuble Alpha, rue Clemenceau, Beirut
Luxembourg.....1945	Minister.....	c/o Canadian Embassy, 35, rue de la Science, Brussels, Belgium
Malaya.....1958	High Commissioner.....	Kuala Lumpur (P.O. Box 990)
Mexico.....1944	Ambassador.....	Melchor Ocampo 463-7, Mexico 5, D.F.
Netherlands.....1939	Ambassador.....	5 and 7 Sophialaan, The Hague
New Zealand.....1940	High Commissioner.....	Government Life Insurance Bldg., Custom- house Quay, C.I., Wellington
Norway.....1943	Ambassador.....	Fridtjof Nansens Plass 5, Oslo
Pakistan.....1950	High Commissioner.....	Metropole Hotel, Victoria Road, Karachi
Peru.....1944	Ambassador.....	Edificio Boza, Plaza San Martin, Lima
Poland.....1943	Chargé d'Affaires <i>ad interim</i> ...	31 Ulica Katowicka, Saska Kępa, Warsaw
Portugal.....1952	Ambassador.....	Rua Marques da Fronteira No. 8, Lisbon
Spain.....1953	Ambassador.....	Edificio España, Plaza de España 2, Madrid
Sweden.....1947	Ambassador.....	Strandvägen 7-C, Stockholm
Switzerland.....1947	Ambassador.....	83 Kirchenfeldstrasse, Berne
Turkey.....1947	Ambassador.....	Mudataai Huduk Caddesi, No. 19, Cankaya, Ankara
Union of South Africa.....1940	High Commissioner.....	Kerry Bldg., 238 Vermeulen St., Pretoria
Union of Soviet Socialist Republics.....1943	Ambassador.....	23 Starokonyushenny Pereulok, Moscow
United Arab Republic.....1954	Ambassador.....	6, Sharia Rustom, Garden City, Cairo
United Kingdom.....1880	High Commissioner.....	Canada House, Trafalgar Square, London, S.W. 1
United States of America.....1927	Ambassador.....	1746 Massachusetts Avenue, N.W., Wash- ington, D.C.
Uruguay.....1952	Chargé d'Affaires <i>ad interim</i> ...	1409 Avenida Agraciada, Piso 7°, Monte- video
Venezuela.....1952	Ambassador.....	Edificio Pan - American, Puente Urapal Candelaria, Caracas
Yugoslavia.....1943	Ambassador.....	Proliterskih Brigada 69, Belgrade
Other Missions		
Canadian Military Mission (1946)...	Head of Mission.....	Perthshire Block, Olympic Stadium, Head- quarters Berlin, (British Sector)
Canadian Delegation to the North Atlantic Council (1952) and Organization for European Economic Co-operation (1950)...	Representative.....	77, rue d'Auteuil, Paris XVI
Commissioner's Office (1953).....	Commissioner.....	Colonial Building, 72 South Quay, Port-of- Spain, Trinidad, West Indies
Permanent Delegation of Canada to the United Nations (1948)....	Permanent Representative.....	750 Third Avenue, New York, N.Y.
Permanent Delegation of Canada to European Office of the United Nations (1948).....	Permanent Representative.....	16, Parc du Chateau Banquet, Geneva
Consulates		
Brazil.....1947	Consul.....	Rua 7 de Abril 252, São Paulo
Germany.....1956	Consul.....	Ferdinandstrasse 69, Hamburg

1.—Canadian Representation Abroad—concluded

Country and Year Representation Established	Present Status of Representative	Address
Consulates—concluded		
Republic of the Philippines...1949	Consul General.....	Ayala Bldg., Juan Luna St., Manila
United States of America...1948	Consul General.....	532 Little Bldg., 80 Boylston St., Boston 16, Mass.
"...1947	Consul General.....	Suite 1412, Garland Bldg., 111 North Wabash Ave., Chicago, Ill.
"...1948	Consul.....	1139 Penobscot Bldg., Detroit 26, Mich.
"...1953	Consul General.....	Associated Realty Bldg., Los Angeles 14, Cal.
"...1952	Consul General.....	215 International Trade Mart, New Orleans 12, La.
"...1943	Consul General.....	680 Fifth Ave., New York, N.Y.
"...1947	Honorary Vice-Consul.....	443 Congress St., Portland, Maine
"...1948	Consul General.....	400 Montgomery St., San Francisco 4, Cal.
"...1953	Consul General.....	1407 Tower Bldg., 7th Ave. at Olive Way, Seattle 1, Wash.

2.—Representation of Other Countries in Canada

Country and Year Representation Established	Present Status of Representative	Address
Argentina...1941	Ambassador.....	211 Stewart Street, Ottawa
Australia...1940	High Commissioner.....	100 Sparks Street, Ottawa
Austria...1952	Ambassador.....	140 Wellington Street, Ottawa
Belgium...1937	Ambassador.....	168 Laurier Avenue East, Ottawa
Brazil...1941	Ambassador.....	305 Stewart Street, Ottawa
Burma...1958	Ambassador.....	Beacon Arms Hotel, Ottawa
Ceylon...1957	High Commissioner.....	177 Powell Avenue, Ottawa
Chile...1942	Ambassador.....	Suite 215, 56 Sparks Street, Ottawa
China...1942	Ambassador.....	201 Wurttemberg Street, Ottawa
Colombia...1953	Ambassador.....	Apt. 33, The Roxborough, Ottawa
Cuba...1945	Ambassador.....	Aylmer Road (corner of Brickyard Road) R. R. No. 1, Hull, P.Q.
Czechoslovakia...1942	Minister.....	171 Clewom Avenue, Ottawa
Denmark...1946	Ambassador.....	446 Daly Avenue, Ottawa
Dominican Republic...1954	Ambassador.....	190 Buena Vista Road, Rockcliffe Park, Ont.
Finland...1948	Chargé d'Affaires.....	140 Wellington Street, Ottawa
France...1928	Ambassador.....	42 Sussex Street, Ottawa
Germany...1951	Ambassador.....	1 Waverley Street, Ottawa
Greece...1942	Ambassador.....	Chateau Laurier Hotel, Ottawa
Haiti...1954	Ambassador.....	82 Wurttemberg Street, Ottawa
Iceland...1948	Minister.....	Chateau Laurier Hotel, Ottawa
India...1947	High Commissioner.....	200 MacLaren Street, Ottawa
Indonesia...1953	Ambassador.....	275 MacLaren Street, Ottawa
Iran...1956	Minister.....	333 Chapel Street, Ottawa
Ireland...1939	Ambassador.....	140 Wellington Street, Ottawa
Israel...1953	Ambassador.....	45 Powell Avenue, Ottawa
Italy...1947	Ambassador.....	172 MacLaren Street, Ottawa
Japan...1928	Ambassador.....	88 Metcalfe Street, Ottawa
Lebanon...1955	Ambassador.....	333 Minto Place, Rockcliffe Park, Ont.
Luxembourg...1950	Minister.....	Chateau Laurier Hotel, Ottawa
Mexico...1944	Ambassador.....	88 Metcalfe Street, Ottawa
Netherlands...1939	Ambassador.....	12 Marlborough Avenue, Ottawa
New Zealand...1942	High Commissioner.....	77 Metcalfe Street, Ottawa
Norway...1942	Ambassador.....	140 Wellington Street, Ottawa
Pakistan...1949	High Commissioner.....	505 Wilbrod Street, Ottawa
Peru...1944	Ambassador.....	539 Island Park Drive, Ottawa
Poland...1942	Chargé d'Affaires <i>ad interim</i>	10 Range Road, Ottawa
Portugal...1952	Ambassador.....	285 Harmer Avenue, Ottawa
Spain...1953	Ambassador.....	149 Daly Avenue, Ottawa
Sweden...1943	Ambassador.....	140 Wellington Street, Ottawa
Switzerland...1946	Ambassador.....	5 Marlborough Avenue, Ottawa
Tunisia...1957	Ambassador.....	Chateau Laurier Hotel, Ottawa
Turkey...1944	Ambassador.....	197 Wurttemberg Street, Ottawa
Union of South Africa...1938	High Commissioner.....	9 Rideau Gate, Ottawa
Union of Soviet Socialist Republics...1942	Ambassador.....	285 Charlotte Street, Ottawa
United Arab Republic...1954	Ambassador.....	The Roxborough, Ottawa
United Kingdom...1928	High Commissioner.....	Earncliffe, Ottawa
United States of America...1927	Ambassador.....	100 Wellington Street, Ottawa
Uruguay...1948	Chargé d'Affaires <i>ad interim</i>	The Roxborough, Ottawa
Venezuela...1953	Ambassador.....	The Roxborough, Ottawa
Yugoslavia...1942	Ambassador.....	17 Blackburn Avenue, Ottawa

Section 2.—International Activities*

Subsection 1.—Canada and Commonwealth Relations, 1957-58

Developments within the Commonwealth during the period under review, mid-1957 to mid-1958, have again demonstrated its vitality and capacity for growth and its continuing significance as a stable political association in the modern world. The process of daily consultation and exchange of information among members of the Commonwealth, an essential feature of their relationship, was continued and strengthened throughout the period. In matters of common concern—defence, foreign policy and economic affairs—Canada maintained, as heretofore, the closest relations with other members of the Commonwealth.

A meeting of the Commonwealth Prime Ministers was held in London, England, from June 26 to July 5, 1957, the first such meeting to be presided over by Prime Minister Macmillan. One of the first official duties of Canada's Prime Minister, the Rt. Hon. John Diefenbaker, was to attend this meeting soon after he assumed office. Other Commonwealth Prime Ministers who attended were Mr. Menzies of Australia, Mr. Nehru of India, Mr. Suhrawardy of Pakistan, Dr. Kwame Nkrumah of Ghana, and Sir Roy Welensky of Rhodesia and Nyasaland. The Prime Ministers of New Zealand, South Africa and Ceylon were unable to attend and were represented by senior members of their governments. Valuable discussions were held on international matters of common concern, including the United Nations, disarmament, relations with the Soviet Union, the Middle East and the Far East, and Commonwealth economic development. The final communiqué referred to the broad similarity of approach and purpose in international affairs which such meetings reveal. The Prime Ministers agreed on the need for constructive action to strengthen and improve the United Nations as an instrument for preserving peace. They were deeply concerned about the problem of disarmament and recognized the value of even a limited agreement in creating conditions in which a more comprehensive disarmament scheme could be developed. The changing nature of the Commonwealth was illustrated by the presence for the first time at such a meeting of the Prime Minister of the new state of Ghana and by the formal notice taken of the forthcoming independence of the Federation of Malaya, both of which were specifically referred to in the final communiqué.

The visit to Canada of Her Majesty Queen Elizabeth II and H.R.H. The Prince Philip in October 1957 was particularly noteworthy. It was a historic occasion when, for the first time, the Parliament of Canada was opened by a reigning Sovereign. Her Majesty, on Oct. 14, delivered the Speech from the Throne at the opening of the First Session of Canada's 23rd Parliament. Towards the end of the period under review, preparations were under way to welcome to Canada H.R.H. The Princess Margaret whose visit took place July 12-Aug. 11, 1958.

In August and September 1957 the Hon. J. M. Macdonnell, Minister without Portfolio, headed a Canadian delegation to the ceremonies marking the independence of Malaya and later visited Singapore, New Delhi, Karachi and London. In October of the same year the Hon. W. J. Browne, Minister without Portfolio, represented Canada at the annual meeting of the Colombo Plan Consultative Committee in Saigon, Vietnam. At this meeting the newest member of the Commonwealth, Malaya, was welcomed as a full member of the Colombo Plan. The Hon. Gordon Churchill, Minister of Trade and Commerce, toured the United Kingdom for a month toward the end of 1957 at the head of a Canadian Trade Mission, the objective of which was to investigate the possibilities for expanding trade between Canada and the United Kingdom.

Ottawa welcomed a number of prominent Commonwealth statesmen during this period, including Prime Minister Menzies of Australia; Mr. Selwyn Lloyd, Foreign Secretary, Mr. Peter Thorneycroft, Chancellor of the Exchequer, Sir David Eccles,

* Prepared by the Department of External Affairs.

President of the Board of Trade, Mr. Reginald Maudling, Paymaster General, and Mr. Heathcoat Amory, Minister of Agriculture of the United Kingdom; Dr. A. J. R. Van Rhijn, Minister of Economic Affairs of South Africa; the Hon. Chief Kolawole Balogun, Minister of Research and Information of Nigeria; and Dr. Kwame Nkrumah, Prime Minister of Ghana. Two members of the Government of Western Nigeria, the Hon. Chief C. D. Akran and the Hon. Chief J. O. Osuntokun, also visited Ottawa.

At the eleventh session of the United Nations General Assembly, Canada was among the Commonwealth countries which sponsored the resolutions admitting Ghana and Malaya to the United Nations.

Conferences of particular Commonwealth interest in which Canada participated, apart from those already mentioned, included: (1) the British Commonwealth Forestry Conference, Wellington, N.Z., October 1957; (2) Commonwealth Finance Ministers' Conference, Mont Tremblant, Que., September 1957; (3) Commonwealth Mining and Metallurgical Congress, 6th Conference, Ottawa and Halifax, September-October 1957; and (4) United Kingdom-Canada Continuing Committee on Trade and Economic Affairs, Ottawa, May 1957. The Mont Tremblant Conference arose from an invitation issued by Prime Minister Diefenbaker at the time of the London meeting of Commonwealth Prime Ministers in July 1957, to Commonwealth Finance Ministers to meet in Canada following the meeting in Washington, D.C., of the International Bank of Reconstruction and Development. Following the Mont Tremblant Conference, which endorsed increased trade and closer economic relations generally among Commonwealth countries, Canadian and United Kingdom Ministers held bilateral talks in Ottawa at which various proposals for expanding trade between the two countries were discussed. Approval was given at Mont Tremblant to the Canadian Government's proposal to hold a Commonwealth Trade and Economic Conference in 1958. Towards the end of the period under review, active plans were under way for that Conference which was held in Montreal in September 1958, the first Commonwealth gathering of its kind in Canada since 1932.

Canada continued to participate with India and Poland in the work of the International Commissions for Supervision and Control, established in 1954 by the Geneva Conference, which ended hostilities in Indo-China.

Canada entered into a number of agreements involving other members of the Commonwealth. An Exchange of Notes in May 1957 amended an agreement of 1951 with India concerning the entry to Canada, for permanent residence, of citizens of India. Bilateral agreements for the avoidance of double taxation were reached with Australia (October 1957) and South Africa (ratification in October 1957 of Agreement reached in September 1956). A Convention with Pakistan for the reciprocal protection of the priority of filing dates of patent applications was signed in January 1958. A Financial Agreement between Canada and India was signed in February 1958.

Canada had maintained a High Commissioner's Office in Ceylon for some time and, in 1957, Ceylon opened a similar Mission in Canada. Canada opened a High Commissioner's Office in Accra in October, 1957. Following the independence of Malaya referred to above, Canada opened a High Commissioner's Office in Kuala Lumpur in March 1958. A Canadian Commissioner to the new Federation of the West Indies was appointed in the spring of 1958; he is resident in Port-of-Spain, Trinidad.

During 1957 Canada made available \$34,400,000 for capital aid and technical assistance under the Colombo Plan to countries in south and southeast Asia. As in previous years, the greater part of Canada's contribution to the Colombo Plan was allocated to India, Pakistan and Ceylon, although other countries also received capital assistance. The technical assistance program, under which Canadian experts are sent to various member countries and technicians and students from there are brought to Canada for study, was successfully continued.

The creation of a new nation in the Caribbean—the Federation of the West Indies—illustrates anew the remarkable ability of the Commonwealth to adapt itself to changing conditions. Following lengthy discussions between the United Kingdom Government

and representatives of the West Indian colonies, a Constitution was proclaimed in July 1957. This Constitution provides that the new Federation shall have full self-government in all matters except questions related to defence, external relations and the maintenance of financial stability, for which the United Kingdom Government retains the right to make such laws as appear necessary. The avowed aim in establishing the Federation is the ultimate achievement of internal self-government within the Commonwealth. The Constitution was brought into full effect on Apr. 22, 1958, when H.R.H. The Princess Margaret inaugurated the federal legislature following the first federal election in March, and a central government was appointed. Canada has maintained trade relations with the West Indies for over two hundred years, an interest which paved the way for Canada-West Indies Trade Agreements in 1912, 1920 and 1925. Coincident with the establishment of the new Federation, Canadian officials have held discussions with federal officials from the West Indies to decide upon ways in which Canada can be of assistance to the new country. A long-term program is being worked out, some of the aspects of which were foreshadowed in a message sent on Mar. 10, 1958, by Prime Minister Diefenbaker to the Governor General of the West Indies and the Advisory Council. Forms of aid are to include the provision of the services of various Canadian experts and a ship suitable for an inter-island shipping service.

Subsection 2.—Canada and the United Nations

During the years 1957 and 1958, the United Nations continued to be confronted with recurrent crises, especially in the Middle East. While the United Nations Emergency Force (UNEF) continued its work of maintaining peace on the Egyptian-Israeli border, the Assembly, at its twelfth session, faced new problems arising on the Syrian border with Turkey, and held an emergency session to deal with a crisis affecting Lebanon, Jordan, and Iraq during the summer of 1958. Among other political issues which came to the attention of the United Nations during this period were the question of Algeria, the tense relations of France with Tunisia in the winter and spring of 1958, and continued repression in Hungary. The problem of disarmament remained a subject of dispute between the Western Powers and the Soviet Union, the latter refusing to take part in the work of the Disarmament Commission from the month of August 1957, while in October the launching of mechanical earth satellites and the development of research for inter-continental ballistic missiles (ICBM) on both sides of the Iron Curtain gave new urgency to this problem.

Throughout the whole of this eventful period, Canada maintained its policy of supporting and promoting the United Nations as an instrument for preserving the peace. Canada was elected to a two-year term of office on the Security Council, beginning Jan. 1, 1958. Canada continued to be represented on the United Nations truce teams in the Middle East, UNTSO and UNEF, and assisted in forming a new organization which was created during the Lebanon crisis, for observation duties on the Syrian-Lebanese border. To this new group—called the United Nations Observation Group in Lebanon (UNOGIL)—Canada contributed 78 officers.

Developments in important United Nations bodies during the period under review are summarized below.

General Assembly.—The twelfth session of the General Assembly met in New York from Sept. 17 to Dec. 15, 1957, under the presidency of Sir Leslie Munro of New Zealand. It was preceded by a brief resumption of the eleventh session of the Assembly on Sept. 10 which was called for further discussion of the Hungarian question. The Canadian representative at this session was Mr. R. A. MacKay, the Permanent Representative of Canada to the United Nations. The Secretary of State for External Affairs, the Hon. Sidney Smith, was Chairman of the Canadian Delegation to the twelfth session of the Assembly. The Prime Minister, the Rt. Hon. John G. Diefenbaker, addressed the session.

Disarmament continued to be a matter of primary concern to the Assembly during its twelfth session. During August 1957 the four Western members of the Sub-Committee of the Disarmament Commission had put forward a plan for a first stage of disarmament

which was discussed in the Sub-Committee but not agreed upon and in the course of the twelfth session the Western powers, including Canada, brought forward a resolution based upon the proposals they had submitted to the Sub-Committee. This resolution was adopted by a large majority. A proposal was also put forward by Canada and other countries to expand the membership of the Disarmament Commission by 14 members, bringing its total strength to 25. This resolution was also adopted. Since both resolutions were opposed by the Soviet Union and other members of the Soviet bloc and since the Soviet Union refused to participate in the enlarged Disarmament Commission, no progress was subsequently made in the field of disarmament as a direct result of the resolutions adopted by the Assembly although negotiations continued between the major powers concerned on specific aspects.

The Assembly also had before it a complaint lodged by Syria concerning alleged threats to its security arising from concentration of Turkish troops on the Syrian-Turkish border. A long debate ensued which, though divisive, seemed to have the effect of dissolving the crisis and the matter was concluded by a tacit agreement among all parties to the dispute that the Assembly should take no action. The Assembly gave its attention to continuing problems in Algeria and Cyprus, and to a dispute between Indonesia and the Netherlands concerning the future status of West New Guinea. It decided that for the twelfth session there should be no change in the character of the representation of China in the Assembly. In the economic field the Assembly took action to increase assistance to under developed countries by deciding to establish a Special Fund for economic assistance which would, through financial and other means, strengthen the prospects for capital investment in these countries. The Assembly also approved the continuation of the United Nations Emergency Force in the Middle East for another year and decided that the Force's expenses would be borne by members of the United Nations in accordance with the scale of assessments, taking into account any voluntary contributions received from such member states.

The resumed eleventh session which met on Sept. 10 considered the official report of the General Assembly's Sub-Committee on the situation in Hungary. It adopted the report of the Sub-Committee, condemned the Soviet Union for its action in Hungary, called upon the Soviet and Hungarian Governments to desist from oppressive measures and requested Prince Wan of Thailand to act as a Special Representative of the General Assembly and to make appropriate recommendations on the Hungarian question. Prince Wan reported later to the twelfth session of the General Assembly that he had been unable to carry out the tasks assigned to him because the Soviet and Hungarian Governments had refused to enter into discussions or to permit him either to visit the Soviet Union or Hungary as a representative of the United Nations.

During the twelfth session of the Assembly, Malaya became the 82nd member of the United Nations. The number of members was later reduced to 81 when Egypt and Syria united to become the United Arab Republic.

Security Council.—On Oct. 1, 1957, Canada, together with Japan and Panama, was elected by the General Assembly to membership on the Security Council for a two-year term commencing Jan. 1, 1958. Canada's participation in United Nations activities was thus increased by reason of its responsibilities as a member of the Council. The more important questions considered by the Security Council during the period under review were a complaint by Lebanon concerning intervention in its internal affairs by the United Arab Republic, and a Soviet complaint concerning United States military flights in the Arctic.

The Council began its discussion of the Lebanese complaint on June 6, 1958. The United Arab Republic representative categorically rejected the Lebanese accusations and asserted that the Council was confronted with a purely internal Lebanese problem. The Council thought otherwise, however, and adopted on June 11, by ten votes in favour with one abstention (U.S.S.R.) a Swedish draft resolution by which it decided to dispatch

immediately an Observation Group to Lebanon (UNOGIL) which would guard against illegal infiltration of personnel or supply of arms or other materiel across the Lebanese borders; the Secretary-General was authorized to take the necessary steps to that end and UNOGIL was requested to keep the Council informed through periodic reports to the Secretary-General. A number of experienced Military Observers were detached from the United Nations Truce Supervision Organization (UNTSO) to afford temporary assistance to UNOGIL. UNOGIL began its work on June 19, with headquarters in Beirut, and established a regular patrol of accessible areas. By Sept. 20, the number of ground observers had increased to 214 and the number of observation posts to 34.

At the request of the U.S.S.R., the Security Council was convened urgently on Apr. 21, 1958, to consider a Soviet complaint requesting immediate measures to put an end to flights by United States military aircraft armed with nuclear weapons in the direction of the frontiers of the U.S.S.R. The Soviet representative attempted to demonstrate that the policies followed by the United States Strategic Air Command constituted a danger to world peace. He failed to obtain any support in the Council and finally withdrew his draft resolution. At a subsequent meeting, the United States delegation introduced a draft resolution recommending the prompt establishment of a zone of inspection in the Arctic region against surprise attack and calling upon the five members of the Subcommittee of the Disarmament Commission, together with Denmark and Norway and any other states having territory north of the Arctic Circle that desired to participate, to join in discussions with a view to agreeing on the technical arrangements required. Canada and several other members of the Council strongly supported the United States proposal. Even the Secretary-General, departing from his usual role of non-participation in public debate, made a statement welcoming the United States initiative. The United States draft resolution as amended by Sweden (*i.e.*, with the addition of a paragraph to express the view that the discussion proposed might serve as a useful basis for the deliberations on the disarmament problem at a Summit conference) received ten votes in favour and one against (U.S.S.R.) and was not adopted, the negative vote being that of a permanent member of the Council. Nevertheless, the entire debate served to focus public attention on the problem of surprise attack and the desirability of finding means to minimize the dangers of accidental war as well as of deliberate aggression.

Among other matters of importance considered by the Security Council during the period under review were: Tunisian and French complaints concerning incidents near the Algeria-Tunisia border; a complaint by Sudan concerning Egyptian troop concentration at the Sudan-Egyptian border; the Palestine question; the question of Kashmir; and the admission of new members. The Security Council also recommended to the General Assembly, which unanimously endorsed this recommendation at its twelfth session, the appointment of the Secretary-General, Mr. Hammarskjöld, for a new five-year term of office.

Economic and Social Council (ECOSOC).—Canada began serving its third three-year term of office on the Economic and Social Council on Jan. 1, 1956. Canada's previous years of service were from 1946 to 1948 and again from 1950 to 1952. In the period reviewed by this article, the Council held its twenty-third, twenty-fourth, twenty-fifth and twenty-sixth sessions. At the twenty-fifth session, Dr. G. F. Davidson, Deputy Minister of Welfare in the federal Department of National Health and Welfare, was elected President of the Council for 1958. As of the end of October 1958, Canada was a member of five of the Economic and Social Council's eight functional commissions—Status of Women, Narcotic Drugs, International Commodity Trade, Statistical and Population.

Ever since the United Nations was established, its ten Specialized Agencies have been the chief instruments through which member states have pooled their efforts in trying to achieve the goals of higher standards of living, full employment and conditions of economic and social progress. Canada is a member of all the United Nations' Specialized

Agencies, and has worked to encourage and develop their programs.* The opportunities for useful and desirable work by the Agencies are unlimited, but since the funds available to them are not, the Council has sought to obtain maximum effect by co-ordinating their activities and by encouraging the application of a system of priorities for their programs. Canada has taken an active part in this phase of the work of the Council. It has particularly recommended that the Specialized Agencies stimulate and support national efforts rather than engage in direct operations.

The Convention of the Intergovernmental Maritime Consultative Organization (IMCO) stipulated that 21 nations, of which seven should each have a total tonnage of not less than 1,000,000 gross tons, must signify their acceptance before this new Specialized Agency could come officially into being. With the deposit of instruments of ratification by Japan and the United Arab Republic on Mar. 17, 1958, the Convention on IMCO came into force on that date. Canada was the first country to ratify the Convention having done so on Oct. 15, 1948. The purpose of IMCO is to promote co-operation among governments in international shipping problems.

In addition, there came into existence on July 29, 1957, the International Atomic Energy Agency (IAEA). This body, though not technically one of the Specialized Agencies, is, like them, an autonomous international organization under the aegis of the United Nations. The provisions of the Statute of the International Atomic Energy Agency concerning both designation and election to the Board of Governors specified several categories of membership, including the selection as designated members of "the five members most advanced on the technical aspects of atomic energy, including the production of source materials". Canada, France, the United Kingdom, the United States and the Soviet Union achieved membership on the Board in this category.

The Economic and Social Council, at its twenty-sixth session held in Geneva during the month of July 1958, discussed United Nations activities in the field of economic assistance to under-developed countries. It adopted a resolution recommending to the General Assembly the establishment of a Special Projects Fund which would enlarge the scope of the existing United Nations programs of assistance to include special projects in certain basic fields, such as extensive surveys of water, mineral and potential power resources, and the creation of training institutes in public administration, statistics and technology, and of agricultural and industrial research and productivity centres. It is expected that the General Assembly will approve the Council's recommendations during its thirteenth session, and that the Special Projects Fund will come officially into being early in 1959. The Canadian Government has announced that it will seek parliamentary approval for a contribution of \$2,000,000 to this Fund in 1959.

The United Nations and its Specialized Agencies have undertaken for many years special programs of assistance to overcome certain acute problems and serious deficiencies that exist in various areas. Since money for these special programs is not available through the regular United Nations budget or through the regular budgets of the Specialized Agencies (these regular budgets are raised by assessing all member states, the scale of assessment being based mainly on gross national product), it must be raised from voluntary contributions made by member states. At the present time the United Nations is sponsoring four special programs: the United Nations Expanded Program of Technical Assistance (ETAP); the United Nations Children's Fund (UNICEF); the United Nations Relief and Works Agency for Palestine Refugees in the Near East (UNRWA); and the United Nations Refugee Fund (UNREF). Canada made substantial contributions to these four programs in 1958: \$650,000 to UNICEF, \$500,000 to UNRWA, \$200,000 to UNREF and \$1,976,875 to ETAP. For 1959 Canada is pledged to contribute \$650,000 to UNICEF, \$500,000 to UNRWA, \$290,000 to UNREF and \$2,000,000 to ETAP.

* Canada's activities in connection with three of these Specialized Agencies—United Nations Educational, Scientific and Cultural Organization, Food and Agricultural Organization and International Labour Organization—are dealt with elsewhere in this volume. See Index.

In addition to these voluntary contributions, Canada paid an annual assessment to the United Nations, to some of the Specialized Agencies and to the International Atomic Energy Agency of about \$3,077,289 in 1957-58. Canada's share of the normal administrative budget of the United Nations proper for that year was at the rate of 3.09 p.c., or \$1,472,511.

Trusteeship Council.—The Trusteeship Council supervises the administration of the agreements between the United Nations and the member states of the United Nations which have responsibility for trust territories. The Council held four regular sessions. Two special sessions were held in the autumn of 1958 to consider questions relating to the Trust Territory of French Togoland.

As of the end of October 1958, the membership of the Trusteeship Council consisted of the seven states which administer trust territories (Australia, Belgium, France, Italy, New Zealand, United Kingdom and United States), and an equal number of non-administering states. Always included in the latter group are the two permanent members of the Security Council, the U.S.S.R. and China, which do not administer trust territories. The other five non-administering countries were Burma, Haiti, India, Paraguay and the United Arab Republic.

During its regular sessions, the Council discussed annual reports submitted by the administering powers on the following territories: Tanganyika and Cameroons under United Kingdom administration; Ruanda-Urundi under Belgian administration; Somaliland under Italian administration; Cameroons and Togoland under French administration; Western Samoa, New Guinea, Trust Territories of the Pacific Islands and Nauru. Their political, economic, social and educational advancement was considered as well as the establishment of intermediate target dates and final time limits for the attaining of self-government or independence.

In the period under review, United Nations missions visited the three trust territories in East Africa—Somaliland, Tanganyika and Ruanda-Urundi. In June 1957, a Special Commission, established by the eleventh session of the General Assembly, visited the territory of French Togoland. France, under a new Statute passed by the Legislative Assembly in 1956, had transferred certain powers to the Togolese Government which made it, in the French view, autonomous, and the Commission's terms of reference were "to examine the political situation in the territory resulting from the practical application of the recently adopted Statute and the conditions under which that Statute was being applied". The Special Commission was composed of six members, including Canada. Following the submission of the Commission's report, the French and Togolese authorities decided that elections on a basis of universal adult suffrage to a new legislative assembly would be held in 1958, and agreed that these elections should be supervised by a commissioner to be chosen by the United Nations General Assembly. Ambassador Max D'Orsinville of Haiti was elected as Commissioner by the twelfth session of the General Assembly. His report will be submitted through the Trusteeship Council to the General Assembly at its thirteenth session.

Canadian policy on trusteeship matters before the General Assembly is governed by a careful weighing, within the provisions of the United Nations Charter, of the responsibilities, rights and aspirations of both the indigenous populations and the administering States. It is the Canadian view that the General Assembly should decide broad policy and leave to the Trusteeship Council a reasonable freedom of action in deciding matters of detail.

International Court of Justice.—To "adjust and settle international disputes in conformity with Justice and International Law" is one of the purposes of the United Nations and it was therefore essential to establish a judicial arm for the Organization. The Statute of the International Court of Justice is an integral part of the Charter of the United Nations. All members of the United Nations are *ipso facto* parties to the Statute

of the Court. A State that is not a member of the United Nations may, nevertheless, become a party to the Statute of the Court on conditions to be determined in each case by the General Assembly upon the recommendation of the Security Council. Thus, at the moment, the total number of parties to the Statute is 84—81 members of the United Nations and 3 non-members (Liechtenstein, San Marino and Switzerland). The Court is composed of 15 judges who are elected in individual capacities. Judge John E. Read of Canada was elected to the Court in 1946 and again in 1949.

Subsection 3.—Canada and the North Atlantic Treaty

Within less than two years of the end of World War II in 1945 and the establishment of the United Nations, hopes of a lasting peace gave place to growing anxiety. The United Nations Security Council, which had been given responsibility for maintaining world-wide security, was deliberately prevented by the U.S.S.R. representatives from fulfilling this function. The Soviet Union maintained its armed forces after the War at a level that insured to itself a preponderance of military strength in Europe. The Soviet Government blocked attempts by the Western Powers to reach a peace settlement in Europe and communist parties were used as an instrument of Soviet policy to sabotage Western European efforts at economic recovery and political co-operation. Under these circumstances, the countries of the Atlantic community felt themselves in grave peril of Soviet aggression and communist subversion and therefore took special collective measures under the United Nations Charter to maintain peace.

The first step in this direction was taken in the spring of 1948 when Belgium, France, Luxembourg, the Netherlands and the United Kingdom signed the Brussels Treaty establishing Western Union. On Apr. 4, 1949, as a result of negotiations between these countries and Canada and the United States, the North Atlantic Treaty was signed at Washington, D.C. This Treaty was accepted by all major groups of opinion in Canada and was passed without a single dissenting vote in Parliament.

The original signatories of the Treaty were Belgium, Canada, Denmark, France, Iceland, Italy, Luxembourg, the Netherlands, Norway, Portugal, the United Kingdom and the United States. In September 1951 it was agreed that Greece and Turkey should be invited to accede to the Treaty and they were admitted in February 1952. In October 1954 a protocol to the North Atlantic Treaty inviting the Federal Republic of Germany to join NATO was approved together with related arrangements which provided for the establishment of a Western European Union (composed of the Brussels Powers, the Federal Republic of Germany, and Italy) and for the restoration of full sovereignty to the Federal Republic of Germany. These measures, designed to bring the Federal Republic of Germany into close and enduring association with the Atlantic Community of free nations, were adopted following the failure of the European Defence Community Treaty which was rejected by the French Assembly in August 1954. On May 6, 1955, the Federal Republic of Germany deposited in Washington its instrument of accession to the North Atlantic Treaty and thus joined NATO as its fifteenth member.

The terms of the Treaty and the organization of the Council and subordinate committees are dealt with in the 1954 Year Book at pp. 113-115.

Developments during 1956-58.—The North Atlantic Council continued in permanent session at Paris, France, under the Chairmanship of the Secretary-General, Lord Ismay and his successor M. Paul-Henri Spaak whose appointment took effect in May 1957. Mr. L. D. Wilgress exercised his responsibilities as Permanent Representative of Canada to the Council until October 1958, when he was succeeded by Mr. Jules Leger, the former Under-Secretary of State for External Affairs. In addition to the regular meetings of the Permanent Representatives, Ministerial sessions were held at Paris in May and December 1956 and at Bonn in May 1957. In December 1957, the Heads of

Government of NATO countries met, in Paris, for the first time and a special meeting of Defence Ministers was held in April 1958 to review the implementation of the important decisions taken in December. In May 1958, the Foreign Ministers of the NATO countries met in Copenhagen to discuss various political and economic problems of concern to NATO and in particular the important questions relating to a possible East-West Summit conference.

At the December meeting, the Heads of Government together with Finance, Defence and Foreign Ministers were concerned with the major military and political problems facing the Alliance, with particular reference to the implications for NATO of the Soviet scientific successes in the immediately preceding months and the measures required of the Alliance to meet the situation. The decisions taken, as outlined in the Declaration and Communiqué released at the close of the meeting, included measures to strengthen the Alliance in the interests of collective security and a forthcoming attitude on disarmament and negotiations with the U.S.S.R. It was agreed in principle to establish stocks of nuclear warheads and place IRBM's in NATO countries where required in accordance with agreements to be worked out bilaterally between the United States and host countries; to promote the co-ordination of research, development and manufacture of modern weapons; to encourage through the pooling of scientific information and facilities an increase in the effectiveness of national scientific effort; and to promote closer economic co-operation between members of the Alliance. At the same time emphasis was placed on the desire of all NATO countries for an acceptable disarmament agreement with the U.S.S.R. and offers were made to resume negotiations in the UN Disarmament Committee, or at the level of Foreign Ministers. These decisions guided the activities of the Council during 1958.

NATO's activities during the period under review were also marked by the efforts of member governments to improve and extend NATO co-operation in non-military fields, and to develop greater unity within the Atlantic community.

The North Atlantic Council appointed at its meeting in May 1956 a Committee of Three Ministers, consisting of Dr. Martino, the Foreign Minister of Italy, Mr. Halvard Lange, Foreign Minister of Norway, and the Hon. L. B. Pearson, then Secretary of State for External Affairs for Canada, to advise the Council on ways and means to achieve these objectives. With the aid of questionnaires, supplemented by consultations at the ministerial level with representatives of the other NATO governments, the Committee of Three submitted a report which was approved in principle by the Ministers at the meeting of December 1956 and all recommendations accepted. The report was an important landmark in the development of NATO activities in the non-military field. It stressed the need of members of the Alliance in present circumstances to develop common policies by full and timely consultation on issues of common concern.

Thus the period under review was extremely active for the NATO Alliance, and the Organization, despite differences which any group of 15 sovereign countries is bound to experience from time to time, still displays much resiliency and continues to be as necessary in the face of Soviet policy and actions in Europe and elsewhere as it was at the time of its establishment in 1949.

Canadian Contributions to NATO.—Canada continued in 1957-58 to support NATO with contributions of Armed Forces to the unified NATO commands, with material assistance to other NATO countries and with financial contributions to common budgets. The 4th Canadian Infantry Brigade, which in late 1957 replaced the 2nd Infantry Brigade in the Soest area of Germany, carried out extensive training exercises independently and also in conjunction with other NATO forces in the Northern Army group in Northwest Europe. The Canadian contribution of an air division of 12 jet fighter squadrons to SACEUR remained unchanged. The Royal Canadian Navy had 40 ships assigned to duties connected with the defence of the Canada-United States area and for the protection of any convoys under the control of SACLANT.

Between Apr. 1, 1950, and Mar. 31, 1958, arrangements under the Canadian Mutual Aid Program provided for the transfer by Canada to the non-North American members of NATO of military aid estimated to value \$1,526,900,000.

The main elements of the program include: (a) training in Canada of aircrew for other NATO countries—under the NATO aircrew training program some 4,500 pilots and navigators from ten NATO nations have successfully completed training at RCAF establishments; (b) transfers of equipment from service stocks or from current production for the Services; (c) direct transfers of equipment from current production; and (d) contributions towards infrastructure programs and NATO budgets. Canada's estimated share of the cost of the NATO common infrastructure program for the year ended Mar. 31, 1959, was \$20,000,000. Total Canadian expenditure for NATO Headquarters budgets for the same year is estimated at \$1,750,000.

Subsection 4.—Canada and the Colombo Plan

The Colombo Plan for Co-operative Economic Development in South and Southeast Asia was conceived at the Commonwealth Meeting of Foreign Ministers held at Colombo, Ceylon, Jan. 9-14, 1950. Although the Colombo Plan was initiated by Commonwealth governments, it is not exclusively a Commonwealth program. It is designed to assist in the economic development of all countries and territories in the general area of south and southeast Asia. Its membership now includes Australia, British Borneo (North Borneo, Brunei and Sarawak), Burma, Cambodia, Canada, Ceylon, India, Indonesia, Japan, Laos, Nepal, New Zealand, Pakistan, the Philippines, Malaya (Malaya and Singapore), Thailand, the United Kingdom, and Vietnam, as well as the United States which is also engaged in a substantial program of economic aid in the same region.

Supervision of the Colombo Plan is in the hands of a Consultative Committee of Foreign Ministers of the member countries, who meet once a year to review projects, exchange views on policy matters and prepare an annual report. It is, as its name implies, a "consultative" body; no collective policy decisions binding member countries are taken by its meetings. To develop the technical assistance side of the Plan, a Council for Technical Co-operation, on which Canada is represented, meets regularly in Colombo. The Technical Co-operation Programme, though an integral part of the Colombo Plan, is designed to supplement the technical assistance activities of the United Nations and the Specialized Agencies in the area.

From the beginning of the Plan in 1950 through April 1959, Canada will have made available a total of \$231,000,000 for capital and technical assistance projects in south and southeast Asia. At the Commonwealth Trade and Economic Conference held in Montreal in September 1958, Canada announced an increase from \$35,000,000 to \$50,000,000 in its annual contribution to the Colombo Plan over the next three years. In addition, Canada announced that it will continue to provide substantial sums to less developed countries in the form of loans and grants for Canadian wheat and flour.

While nine separate countries are now receiving capital assistance from Canada, the largest contributions have so far been made in India, Pakistan and Ceylon. The Canadian contribution has consisted primarily of direct assistance to various development projects (equipment for multi-purpose irrigation and hydro-electric projects, the Canada-India NRX atomic reactor, transportation equipment, fishing boats and surveys of resources). It has also included goods which the recipient governments have been able to use as a means of raising some of the money needed to meet local costs of development programs (wheat, flour, copper, aluminum and railway equipment). Canadian aid has been helping these countries in both ways, to develop their economies and raise their standards of living.

Under the Technical Assistance Programme up to September 1958, more than 1,000 persons from many countries in the area had been received for training in Canada in a great variety of technical fields and 120 Canadian experts had been sent abroad for service in Colombo Plan countries in such fields as fisheries, refrigeration, marine biology, agriculture, soil erosion, vocational training, accountancy and the maintenance of tractors and agricultural machinery. Other Canadian experts had been employed on aerial resources survey teams and in the installation and operation of capital equipment. Equipment for technical training in various fields had also been supplied.

The Consultative Committee of the Colombo Plan held annual meetings at Singapore in 1955, at Wellington in 1956, at Saigon in 1957 and at Seattle in November 1958. At the Singapore meeting it was agreed that the Colombo Plan should be extended from July 1957 to June 1961. Reports of the Committee on progress and future plans are published after each annual meeting; each report also contains sections describing the activities of member countries.

CHAPTER III.—POPULATION*

CONSPECTUS

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NOTE.—The interpretation of the symbols used in the tables throughout the Year Book will be found facing p. 1 of this volume.

This Chapter presents only a limited summary of the voluminous data on population recorded by the Censuses of Canada. More detailed information and extended analyses are published in the Census volumes and reports, which are obtainable from the Queen's Printer or the Dominion Bureau of Statistics, Ottawa. A list of such publications and their prices is available on request.

Section 1.—Census of Population

Subsection 1.—History of the Census

A brief account of the early censuses of Canada is given under this heading in the 1956 Year Book at pp. 146-149. More detailed information on the history of census-taking in Canada may be found in Vol. XI (Administrative Report) of the 1951 Census of Canada, in the Administrative Report of the 1941 Census of Canada, and in Vol. I of the 1931 Census of Canada.

Subsection 2.—Growth and Density of the Population

The population history of Canada, from the first census in 1666 when 3,215 persons were enumerated to the 1956 Census when the figure was 16,080,791, reveals an outstanding rate of population growth. Although each census period contributed to this growth, the periods 1901-11, 1911-21, 1941-51 and 1951-56 merit particular mention.†

In the first half of the present century, Canada's population increased from 5,371,315 at the beginning of the period to just over 14,000,000 in 1951, or to 13,648,013 if Newfoundland is excluded. In the thirty years up to 1931 the population almost doubled and

* Revised in the Census (Demography) Division, Dominion Bureau of Statistics.

† An outline of the growth of population in Canada since the beginning of the Seventeenth Century may be found in Vol. I of the 1931 Census. Other accounts of population growth prior to the present century are included in Vol. I of the 1941 Census and Vol. X of the 1951 Census.

between 1931 and 1951 another 3,600,000 was added. The most rapid growth took place in the first decade of the century when the population increased by 1,835,000 and the rate of growth was slightly over one-third. Coincident with the settlement of the western provinces, substantial immigration characterized the whole period from the beginning of the century up to the outbreak of World War I; immigrants entering Canada during the first ten years of this period numbered 1,644,147.

Owing partly to the sharp falling off in immigration during the war years and partly to heavier emigration, the rate of increase of Canada's population in the decade 1911-21 was less than in the previous decade; nevertheless total population advanced by 1,581,000 or about 22 p.c. It should be mentioned that, largely because of the record volume of immigration between 1911 and the outbreak of war, the actual number of immigrants to Canada during this decade was slightly greater than during the period 1901-11, although in terms of total population at the beginning of each of these periods immigration was a relatively less important factor in population growth in the decade 1911-21.

Population growth between 1921 and 1931 was approximately 1,590,000 or only slightly greater than in the previous decade. The rate of increase, at 18 p.c., was less than in the period 1911-21 and only a little more than half the rate recorded in the first decade of the century. Also it is significant that the rate of population growth in Eastern Canada was much closer to the rate of growth in Western Canada than in the period 1901-21. In the decade 1931-41 Canada's population increase, at 11 p.c., was the lowest recorded. Immigration over this decade was not much more than 150,000 or only about one-tenth of the number in each decade since 1901. The depressed conditions existing throughout most of the decade also resulted in a sharp falling off in marriages and in births. As a result, only 1,130,000 was added to the population of Canada over this ten-year period.

Despite the almost complete cessation of immigration during World War II, the decade 1941-51 was marked by a record growth in population numbers. Excluding Newfoundland, the increase amounted to 2,141,000. The rate of growth was just over 18 p.c. or about the same rate as was recorded in the census decade following World War I. Including Newfoundland, the rate of growth of the Canadian population in the period 1941-51 was 22 p.c., raising the Canada total as of June 1, 1951, to just over 14,000,000.

During the first five years of the second half of the present century Canada experienced an outstanding development of its economic resources. Reflecting this expansion, population growth, which in the ten years preceding the 1956 Census had increased by 3,374,000 or 27.4 p.c.,* continued at a high level over the years between the 1951 and 1956 Censuses. Slightly more than 2,000,000 persons were added to the population of Canada in this period, a 14.8-p.c. increase in five years, raising the total population to 16,080,791 on June 1, 1956. Net immigration accounted for almost 30 p.c. of the total increase in population since the 1951 Census, and natural increase for slightly over 70 p.c. In no comparable period of time in the past was the absolute size of net immigration as large as in this five-year period. In terms of the relative contribution of net immigration to population growth, only in the first decade of the century—when it accounted for 40 p.c. of the total population increase—did this element play a more important role than in the years since 1951.†

The record of population growth by provinces since 1901 given in Table 1 indicates the rapid expansion that took place in the Prairie Provinces up to 1921 and the slowing down in growth that followed during the 1920's and was greatly accentuated during the

* Exclusive of Newfoundland since this province did not come into Confederation until 1949.

† More detailed information on the elements of current population growth may be found in 1956 Census Report No. 3-1 *Growth of Population in Canada*.

period 1931-51. It also shows that the Maritime Provinces as a group experienced only a slight gain in population between 1901 and 1931—Prince Edward Island actually losing about 15,000 people over this period—but showed somewhat greater growth since 1931; that the rate of population increase in Quebec by decades over the fifty years 1901-51 was consistently greater than in Ontario, the larger gains in the latter province resulting from net migration being more than offset by the higher rate of natural increase in Quebec; and that the population of British Columbia recorded consistent and, in some decades, spectacular growth.

1.—Numerical Distribution of Population by Province, and Percentage Change from Preceding Census, Decennial Census Years 1901-51 and 1956

NOTE.—Populations for the decennial Census years 1871, 1881 and 1891 are given in the 1956 Year Book, p. 149. The populations of the Prairie Provinces in 1906, 1916, 1926, 1936 and 1946 will be found in the 1951 edition, p. 131.

Province or Territory	1901	1911	1921	1931	1941	1951	1956
NUMERICAL DISTRIBUTION							
Newfoundland.....	1	1	1	1	1	361,416	415,074
Prince Edward Island..	103,259	93,728	88,615	88,038	95,047	98,429	99,285
Nova Scotia.....	459,574	492,338	523,837	512,846	577,962	642,584	694,717
New Brunswick.....	331,120	351,889	387,876	408,219	457,401	515,697	554,616
Quebec.....	1,648,898	2,005,776	2,360,510	2,874,662	3,331,882	4,055,681	4,628,378
Ontario.....	2,182,947	2,527,292	2,933,662	3,431,683	3,787,655	4,597,542	5,404,933
Manitoba.....	255,211	461,394	610,118	700,139	729,744	776,541	850,040
Saskatchewan.....	81,279	492,432	757,510	821,785	895,992	831,728	880,665
Alberta.....	73,022	374,295	588,454	731,605	796,169	939,501	1,123,116
British Columbia.....	178,657	392,480	524,582	694,263	817,861	1,165,210	1,398,464
Yukon.....	27,219	8,512	4,157	4,230	4,914	9,096	12,190
Northwest Territories..	20,129	6,507	8,143	9,316	12,028	16,004	19,313
Canada.....	5,371,315	7,206,643	8,787,949¹	10,376,786	11,506,655	14,009,429	16,080,791
PERCENTAGE CHANGE FROM PRECEDING CENSUS							
Newfoundland.....	1	1	1	1	1	1	14.8
Prince Edward Island..	-5.3	-9.2	-5.5	-0.7	8.0	3.6	0.9
Nova Scotia.....	2.0	7.1	6.4	-2.1	12.7	11.2	8.1
New Brunswick.....	3.1	6.3	10.2	5.2	12.0	12.7	7.5
Quebec.....	10.8	21.6	17.7	21.8	15.9	21.7	14.1
Ontario.....	3.2	15.8	16.1	17.0	10.4	21.4	17.6
Manitoba.....	67.3	80.8	32.2	14.8	4.2	6.4	9.5
Saskatchewan.....	—	439.5	53.8	21.7	-2.8	-7.2	5.9
Alberta.....	—	412.6	57.2	24.3	8.8	18.0	19.5
British Columbia.....	82.0	119.7	33.7	32.3	17.8	42.5	20.0
Yukon.....	—	-68.7	-51.2	1.8	16.2	85.1	34.0
Northwest Territories..	-79.7	-67.7	25.1	14.4	29.1	33.1	20.7
Canada.....	11.1	34.2	21.9	18.1	10.9	21.8	14.8

¹ Populations of Newfoundland (not part of Canada until 1949) were: 1901, 220,984; 1911, 242,619; 1921, 263,033; 1931, 281,500 (estimated); 1941, 303,300 (estimated); and 1945, 321,819. ² Includes 485 members of the Royal Canadian Navy recorded separately in 1921.

The land area and density of the population per square mile is given by province in Table 2 for census years 1931, 1941, 1951 and 1956. It will be noted that the figures for 1951 and 1956 include the Province of Newfoundland, a fact that should be kept in mind in comparisons with earlier censuses.

2.—Land Area and Density of Population by Province, Decennial Census Years 1931-51 and 1956

NOTE.—Certain population density figures in this table have been revised since published in Census Reports, as a result of changes in land areas.

Province or Territory	Land Area in Sq. Miles	Population, 1931		Population, 1941		Population, 1951		Population, 1956	
		Total	Per Sq. Mile	Total	Per Sq. Mile	Total	Per Sq. Mile	Total	Per Sq. Mile
Newfoundland ¹	143,045	...	...	...	...	361,416	2.53	415,074	2.90
Prince Edward Island...	2,184	88,038	40.31	95,047	43.52	98,429	45.07	99,285	45.46
Nova Scotia.....	20,402	512,846	25.14	577,962	28.33	642,584	31.50	694,717	34.05
New Brunswick.....	27,835	408,219	14.67	457,401	16.43	515,697	18.53	554,616	19.93
Quebec.....	523,860	2,874,662	5.49	3,331,882	6.36	4,055,681	7.74	4,628,378	8.84
Ontario.....	344,092	3,431,683	9.97	3,787,655	11.01	4,597,542	13.36	5,404,933	15.71
Manitoba.....	211,775	700,139	3.31	729,744	3.45	776,541	3.67	850,040	4.01
Saskatchewan.....	220,182	921,785	4.19	895,992	4.07	831,728	3.78	880,665	4.00
Alberta.....	248,800	731,605	2.94	796,169	3.20	939,501	3.78	1,123,116	4.51
British Columbia.....	359,279	694,263	1.93	817,861	2.28	1,165,210	3.24	1,398,464	3.89
Canada (Exclusive of the Territories)....	2,101,454	10,363,240	5.29²	11,489,713	5.87²	13,984,329	6.65³	16,049,288	7.64³
Yukon Territory.....	205,346	4,230	0.02	4,914	0.02	9,096	0.04	12,190	0.06
Northwest Territories..	1,253,438	9,316	0.01	12,028	0.01	16,004	0.01	19,313	0.02
Canada.....	3,560,238	10,376,786	3.04⁴	11,506,655	3.37⁴	14,009,429	3.93³	16,080,791	4.52³

¹ Includes Labrador.

² Calculated on the basis of 1,958,409 sq. miles which excludes the land area of Newfoundland.

³ Includes Newfoundland.

⁴ Calculated on the basis of 3,417,193 sq. miles which excludes the land area of Newfoundland.

Subsection 3.—Rural and Urban Population

Before 1951 the population residing within the boundaries of all incorporated cities, towns and villages of a province was classified by the census as urban and the remainder as rural. Since the laws governing incorporation vary among provinces, there was no uniform line of demarcation between the rural and urban population throughout Canada. In the 1951 Census the aggregate number of residents within a given area, rather than provincial legal status, was the main criterion for the rural-urban classification. The population residing in cities, towns and villages of 1,000 or over, whether incorporated or unincorporated, as well as the population of all parts of census metropolitan areas, was defined as urban and that outside such localities as rural. The 1956 Census definition was substantially the same as that used in the Census of 1951 except that the fringe parts of other major urban areas were classed as urban.

A change in the composition of urban size groups was made also for the 1956 Census. At the 1951 Census, each municipality located within the boundaries of a census metropolitan area was allocated to an urban size group according to its own individual size. In 1956, each such municipality was classified to the same urban size group as the total metropolitan area of which it formed a part. In addition, the fringe parts of other major urban areas were included in the tabulations by urban size groups in the same manner as those of census metropolitan areas.

Table 3 presents the rural and urban population by province or territory for 1956. The rural population is further classified by farm and non-farm residence and the urban population by size of locality.

3.—Rural Population classified by Farm and Non-farm, and Urban Population classified by Size Group, by Province, Census 1956

Province or Territory	Rural			Urban Size Groups				
	Farm ¹	Non-farm	Total	1,000 to 9,999	10,000 to 29,999	30,000 to 99,999	100,000 or Over	Total
Newfoundland.....	10,138	219,684	229,822	84,036	23,225	77,991	—	185,252
Prince Edward Island.....	43,112	25,703	68,815	13,763	16,707	—	—	30,470
Nova Scotia.....	95,381	200,242	295,623	103,996	22,551	—	272,547	399,094
New Brunswick.....	125,011	175,315	300,326	87,957	30,300	136,033	—	254,290
Quebec.....	740,387	647,153	1,387,540	649,356	288,039	293,556	2,009,887	3,240,838
Ontario.....	632,153	669,861	1,302,014	605,924	403,281	801,247	2,292,467	4,102,919
Manitoba.....	202,163	137,294	339,457	55,907	45,555	—	409,121	510,583
Saskatchewan.....	360,651	198,011	558,662	98,272	61,118	162,613	—	322,003
Alberta.....	327,201	160,091	487,292	121,745	62,626	—	451,453	635,824
British Columbia.....	95,338	276,659	371,997	168,575	67,428	—	790,464	1,026,467
Yukon Territory.....	40	9,580	9,620	2,570	—	—	—	2,570
Northwest Territories.....	12	14,756	14,768	4,545	—	—	—	4,545
Canada.....	2,631,587	2,734,349	5,365,936	1,996,646	1,020,830	1,471,440	6,225,939	10,714,855

¹ Excludes 115,168 persons living on farms in localities classed as urban.

Populations of Counties and Census Divisions.—Population totals for counties and census divisions for the census years 1951 and 1956 are presented in Table 4. Corresponding information for the census years 1901-41 is given in the 1952-53 Year Book, pp. 137-141. The 1956 populations of the subdivisions of the counties and census divisions may be found in Reports No. 1-1 to 1-5 of the 1956 Census of Canada, and further details for the earlier census years in *Ninth Census of Canada, 1951, Vol. I.*

4.—Populations of the Provinces and Territories, by Counties and Census Divisions, Census Years 1951 and 1956

Province and County	1951	1956	Province and County	1951	1956
	No.	No.		No.	No.
Canada.....	14,009,429	16,080,791	Nova Scotia—concluded		
Newfoundland.....	361,416	415,074	Queens.....	12,544	12,774
Division No. 1.....	149,543	171,213	Richmond.....	10,783	10,961
Division No. 2.....	22,366	23,980	Shelburne.....	14,392	14,604
Division No. 3.....	20,434	21,675	Victoria.....	8,217	8,185
Division No. 4.....	15,982	19,631	Yarmouth.....	22,794	22,392
Division No. 5.....	28,089	35,215	New Brunswick.....	515,697	554,616
Division No. 6.....	27,968	33,738	Albert.....	9,910	10,943
Division No. 7.....	35,294	38,209	Carleton.....	22,269	23,073
Division No. 8.....	36,799	40,629	Charlotte.....	25,136	24,497
Division No. 9.....	17,051	19,970	Gloucester.....	57,489	64,119
Division No. 10.....	7,890	10,814	Kent.....	26,767	27,492
Prince Edward Island.....	98,429	99,285	Kings.....	22,467	24,267
Kings.....	17,943	17,853	Madawaska.....	34,329	36,988
Prince.....	37,735	38,007	Northumberland.....	42,994	47,223
Queens.....	42,761	43,425	Queens.....	13,206	12,838
Nova Scotia.....	642,554	694,717	Restigouche.....	36,212	39,720
Annapolis.....	21,747	21,682	St. John.....	74,497	81,392
Antigonish.....	11,971	13,076	Sunbury.....	9,322	10,647
Cape Breton.....	120,306	125,478	Victoria.....	18,541	19,020
Colchester.....	31,536	34,640	Westmorland.....	80,012	85,414
Cumberland.....	39,655	39,598	York.....	42,546	47,083
Digby.....	19,989	19,869	Quebec.....	4,055,681	4,623,278
Guyssborough.....	14,245	13,802	Abitibi.....	86,356	99,578
Halifax.....	162,217	197,943	Argenteuil.....	25,872	28,474
Hants.....	23,357	24,889	Arthabaska.....	36,957	41,422
Inverness.....	18,390	18,235	Bagot.....	19,224	20,213
Kings.....	33,183	37,816	Beauce.....	54,973	59,957
Lunenburg.....	33,256	34,207	Beauharnois.....	38,748	42,691
Pictou.....	44,002	44,566	Bellechasse.....	26,117	26,203
			Berthier.....	24,717	26,359

¹ Includes districts of Abitibi and Mistassini.

4.—Populations of the Provinces and Territories by Counties and Census Divisions, Census Years 1951 and 1956—continued

Province and County	1951	1956	Province and County	1951	1956
No.	No.	No.	No.	No.	No.
Quebec—continued			Quebec—concluded		
Bonaventure.....	41,121	43,240	Témiscouata.....	65,550	68,362
Brome.....	13,393	13,790	• Rivière du Loup.....	37,375	39,461
Chambly.....	77,931	111,979	• Témiscouata.....	28,175	28,901
Champlain.....	85,745	102,674	Terrebonne.....	67,437	61,329
Charlevoix.....	28,259	30,283	Vaudreuil.....	17,378	22,625
Charlevoix East.....	14,511	15,706	Verchères.....	17,729	20,908
Charlevoix West.....	13,748	14,557	Wolfe.....	18,153	18,774
Châteauguay.....	17,857	22,588	Yamaska.....	16,071	16,616
Chicoutimi.....	115,904	137,999			
Compton.....	23,856	25,057	Ontario.....	4,597,542	5,404,933
Deux Montagnes.....	21,048	26,595	Algoma.....	64,406	62,059
Dorchester.....	33,313	34,692	Brant.....	72,857	77,992
Drummond.....	53,426	55,565	Bruce.....	41,311	42,070
Frontenac.....	30,733	31,433	Carleton.....	242,247	282,630
Gaspé.....	62,530	71,896	Cochrane.....	83,850	86,768
Gaspé East.....	37,442	41,319	Dufferin.....	14,566	15,569
Gaspé West.....	15,089	19,021	Dundas.....	15,818	16,978
Magdalen Islands.....	9,999	11,556	Durham.....	30,115	35,827
Hochelaga (included in			Elgin.....	55,518	59,114
Montreal Island)			Essex.....	217,150	246,901
Hull.....	92,582	109,833	Frontenac.....	66,099	76,534
Gatineau.....	35,264	40,754	Glenarry.....	17,702	18,693
Hull.....	67,318	69,079	Grenville.....	17,045	20,563
Huntingdon.....	13,457	14,278	Grey.....	58,960	60,971
Iberville.....	13,507	15,724	Halifax.....	24,138	26,067
Jacques Cartier (included in			Haliburton.....	7,670	8,012
Montreal Island)			Halton.....	44,003	68,297
Joliette.....	37,251	40,706	Hastings.....	74,298	83,745
Kamouraska.....	26,672	27,817	Huron.....	49,280	51,728
Labelle.....	27,197	28,492	Kent.....	39,212	47,156
Lac St. Jean.....	82,006	96,673	Lambton.....	79,128	85,362
Lac St. Jean East.....	31,188	38,273	Lanark.....	74,960	89,939
Lac St. Jean West.....	60,878	68,400	Leeds.....	35,601	38,025
Laprairie.....	18,639	24,620	Leeds and Addington.....	38,831	43,077
L'Assomption.....	23,205	28,642	Lincoln.....	19,544	21,611
Laval (included in Ile Jésus)			Manitowish.....	89,356	111,740
Lévis.....	43,625	46,839	Manitowish.....	11,214	11,060
L'Islet.....	22,996	24,047	Middlesex.....	162,139	190,897
Lotbinière.....	27,985	30,116	Muskoka.....	24,713	25,134
Maskinongé.....	19,478	20,870	Nipissing.....	50,517	60,452
Matane.....	64,182	71,042	Norfolk.....	42,708	46,122
Matane.....	50,243	54,957	Northumberland.....	33,482	38,018
Matapédia.....	33,859	36,085	Ontario.....	67,088	108,440
Mégantic.....	45,325	53,028	Oxford.....	58,818	65,228
Missisquoi.....	24,689	26,773	Parry Sound.....	27,371	28,095
Montcalm.....	17,520	18,670	Peel.....	55,673	63,108
Montmagny.....	24,729	25,969	Perth.....	52,584	55,057
Montmorency.....	21,389	24,598	Peterborough.....	60,789	67,981
Montmorency No. 1.....	17,040	19,863	Prescott.....	25,576	26,291
Montmorency No. 2.....	4,349	4,735	Prince Edward.....	18,559	21,145
Montreal and Ile Jésus.....	1,358,075	1,577,063	Rainy River.....	22,132	25,483
Ile Jésus.....	37,843	69,410	Renfrew.....	66,717	78,245
Montreal Island.....	1,320,232	1,607,653	Russell.....	17,666	18,994
Napierville.....	9,203	10,140	Simcoe.....	106,482	127,016
Nicolet.....	30,335	31,248	Stormont.....	48,458	56,452
Papineau.....	29,381	30,175	Sudbury.....	109,590	141,975
Pontiac.....	20,696	20,995	Thunder Bay.....	105,367	122,890
Portneuf.....	43,453	46,098	Timiskaming.....	50,016	50,264
Quebec.....	252,890	288,754	Victoria.....	27,127	28,248
Richelieu.....	30,801	36,086	Waterloo.....	126,123	148,774
Richmond.....	34,102	38,641	Welland.....	123,233	149,606
Rimouski.....	53,220	61,357	Wellington.....	66,930	75,691
Rouville.....	19,506	22,083	Wentworth.....	266,083	316,238
Saguenay ¹	42,664	57,364	York.....	1,176,622	1,440,601
Shefford.....	43,722	48,665			
Sherbrooke.....	62,166	70,568	Manitoba.....	776,541	850,040
Soulanges.....	9,233	9,736	Division No. 1.....	23,861	24,888
Stanstead.....	34,642	35,319	Division No. 2.....	38,971	39,118
St. Hyacinthe.....	38,101	40,302	Division No. 3.....	22,870	22,520
St. Jean.....	28,702	34,054	Division No. 4.....	15,036	14,630
St. Maurice.....	93,855	102,050	Division No. 5.....	52,453	60,568
Témiscamingue.....	55,102	57,661	Division No. 6.....	330,130	368,724

¹ Includes New Quebec district.² Includes district of Patricia.

4.—Populations of the Provinces and Territories by Counties and Census Divisions, Census Years 1951 and 1956—concluded

Province and Division	1951	1956	Province and Division	1951	1956
	No.	No.		No.	No.
Manitoba—concluded			Alberta	939,501	1,123,116
Division No. 7.....	40,791	45,928	Division No. 1.....	28,317	34,496
Division No. 8.....	19,565	22,171	Division No. 2.....	67,694	74,991
Division No. 9.....	58,875	72,639	Division No. 3.....	27,667	30,426
Division No. 10.....	19,311	13,928	Division No. 4.....	13,182	14,294
Division No. 11.....	25,101	24,567	Division No. 5.....	39,055	38,120
Division No. 12.....	23,357	23,666	Division No. 6.....	177,441	237,886
Division No. 13.....	24,537	24,188	Division No. 7.....	40,217	40,214
Division No. 14.....	23,499	22,581	Division No. 8.....	57,513	64,168
Division No. 15.....	12,492	12,365	Division No. 9.....	19,496	17,239
Division No. 16.....	45,692	52,564	Division No. 10.....	70,677	71,500
			Division No. 11.....	235,475	323,539
Saskatchewan	831,728	880,665	Division No. 12.....	39,886	44,947
Division No. 1.....	35,481	36,948	Division No. 13.....	46,638	45,033
Division No. 2.....	34,714	33,929	Division No. 14.....	14,443	15,846
Division No. 3.....	29,477	29,686	Division No. 15.....	61,800	70,417
Division No. 4.....	16,691	17,386	British Columbia	1,165,210	1,398,464
Division No. 5.....	48,877	47,000	Division No. 1.....	27,628	30,584
Division No. 6.....	113,614	132,849	Division No. 2.....	60,060	65,615
Division No. 7.....	50,421	58,443	Division No. 3.....	77,686	84,871
Division No. 8.....	35,211	39,643	Division No. 4.....	649,238	767,921
Division No. 9.....	54,939	52,931	Division No. 5.....	215,003	256,355
Division No. 10.....	37,633	35,903	Division No. 6.....	41,823	54,304
Division No. 11.....	84,365	102,715	Division No. 7.....	18,247	21,022
Division No. 12.....	27,896	28,484	Division No. 8.....	40,276	60,867
Division No. 13.....	30,721	32,972	Division No. 9.....	20,854	37,211
Division No. 14.....	61,615	54,971	Division No. 10.....	14,395	20,514
Division No. 15.....	81,160	82,502	Yukon Territory	9,096	12,190
Division No. 16.....	45,211	45,339	Northwest Territories	16,904	19,313
Division No. 17.....	29,048	29,049			
Division No. 18.....	14,654	19,910			

Populations of Incorporated Urban Centres.—The growth of Canadian cities with populations of over 30,000 from 1951 to 1956, together with the years of their incorporation as cities, is shown in Table 5. All incorporated cities, towns and villages having populations of 1,000 or over in 1956 are listed in Table 8.

5.—Incorporated Cities with Populations of Over 30,000 at the 1956 Census with Comparable Data for 1951

City and Province	Year of Incorporation as City	Population		City and Province	Year of Incorporation as City	Population	
		1951	1956			1951	1956
		No.	No.			No.	No.
Brantford, Ont.....	1877	36,727	51,869	Quebec, Que.....	1832	164,016	170,703
Calgary, Alta.....	1893	129,060	181,780	Regina, Sask.....	1903	71,319	89,755
Edmonton, Alta.....	1904	159,631	226,002	St. Catharines, Ont.....	1876	37,994	39,708
Fort William, Ont.....	1907	34,947	39,464	Saint John, N.B.....	1785	50,779	52,491
Guelph, Ont.....	1879	27,386	33,860	St. John's, Nfld.....	1888	52,873	57,078
Halifax, N.S.....	1841	85,589	93,301	St. Laurent, Que.....	1955	20,426	38,291
Hamilton, Ont.....	1846	208,321	239,625	Sarnia, Ont.....	1914	34,667	43,447
Hull, Que.....	1875	43,483	49,243	Saskatoon, Sask.....	1906	63,268	72,358
Jacques Cartier, Que.....	1951	22,450	33,132	Sault Ste. Marie, Ont.....	1912	32,452	37,329
Kingston, Ont.....	1846	33,459	48,618	Sherbrooke, Que.....	1875	60,543	58,663
Kitchener, Ont.....	1912	44,867	59,562	Sudbury, Ont.....	1930	42,410	46,482
Lachine, Que.....	1909	27,773	34,494	Sydney, N.S.....	1904	31,317	32,162
London, Ont.....	1855	95,343	101,693	Trois Rivières, Que.....	1857	46,074	50,483
Moncton, N.B.....	1890	27,334	36,003	Toronto, Ont.....	1834	675,754	667,706
Montreal, Que.....	1832	1,021,520	1,109,439	Vancouver, B.C.....	1886	344,833	365,844
New Westminster, B.C.....	1860	28,639	31,665	Verdun, Que.....	1912	77,391	78,262
Oshawa, Ont.....	1924	41,545	50,412	Victoria, B.C.....	1862	51,331	54,584
Ottawa, Ont.....	1854	202,045	222,129	Windsor, Ont.....	1892	120,049	121,980
Peterborough, Ont.....	1905	38,272	42,698	Winnipeg, Man.....	1873	235,710	255,093
Port Arthur, Ont.....	1907	31,161	38,136				

For census purposes, metropolitan areas have been established for groups of urban communities that are in close economic, geographic and social relationship. The total population of each of the census metropolitan areas in 1956, with the comparable figure from the 1951 Census covering the same area as in 1956, is shown in Table 6. In this table the metropolitan area has been named after the largest city of the urban group.

6.—Populations of Census Metropolitan Areas 1956 compared with Populations of Same Areas in 1951

Metropolitan Area	Population		Metropolitan Area	Population	
	1951	1956		1951	1956
	No.	No.		No.	No.
Calgary, Alta.....	140,645	200,449	Saint John, N.B.....	73,337	86,015
Edmonton, Alta.....	173,748	251,004	St. John's, Nfld.....	67,313	77,991
Halifax, N.S.....	133,931	164,200	Toronto, Ont.....	1,117,470	1,358,028
Hamilton, Ont.....	272,327	327,831	Vancouver, B.C.....	561,960	665,017
London, Ont.....	128,977	154,453	Victoria, B.C.....	108,285	125,447
Montreal, Que.....	1,395,400	1,620,758	Windsor, Ont.....	163,618	185,865
Ottawa, Ont.....	292,476	345,460	Winnipeg, Man.....	354,069	409,121
Quebec, Que.....	274,827	309,959			

The distribution of the population of incorporated cities, towns and villages in Canada by size group is given in Table 7 for the census years 1941, 1951 and 1956.

7.—Populations of Incorporated Cities, Towns and Villages by Size, Census Years 1941, 1951 and 1956

Size Group	1941 ¹			1951			1956		
	Number	Population	P.C. of Total Pop.	Number	Population	P.C. of Total Pop.	Number	Population	P.C. of Total Pop.
Over 500,000.....	2	1,570,464	13.65	2	1,697,274	12.11	2	1,777,145	11.05
Between—									
400,000 and 500,000.....	—	—	—	—	—	—	—	—	—
300,000 and 400,000.....	—	—	—	1	344,833	2.46	1	365,844	2.28
200,000 and 300,000.....	2	497,313	4.32	3	646,076	4.61	4	942,849	5.86
100,000 and 200,000.....	4	577,356	5.02	4	572,756	4.09	4	576,156	3.58
50,000 and 100,000.....	7	508,808	4.42	9	588,436	4.20	12	769,323	4.78
25,000 and 50,000.....	19	605,805	5.26	24	802,380	5.73	27	929,624	5.78
15,000 and 25,000.....	20	377,505	3.28	34	636,713	4.54	43	853,341	5.31
10,000 and 15,000.....	24	296,195	2.57	29	347,410	2.48	44	527,802	3.28
5,000 and 10,000.....	74	510,429	4.44	100	720,077	5.14	117	830,289	5.16
3,000 and 5,000.....	91	348,709	3.03	119	457,492	3.27	130	497,818	3.10
1,000 and 3,000.....	337	561,019	4.88	409	698,092	4.98	450	772,013	4.80
Under 1,000.....	1,060	398,813	3.47	1,049	429,683	3.07	1,039	443,922	2.76
Totals.....	1,640	6,252,416	54.34	1,783	7,941,222	56.68	1,873	9,286,126	57.75

¹ Newfoundland not included.

Of the 1,873 incorporated urban centres in Canada at the date of the latest census, June 1, 1956, 834 had a population of 1,000 or over. These are listed alphabetically by province in Table 8 with their 1956 populations and comparative figures for 1951.

**8.—Incorporated Cities, Towns and Villages having Populations of 1,000 or Over in 1956,
by Province, with Comparable Data for 1951**

NOTE.—Provincial capital cities are marked by asterisk (*).

Province and Incorporated Centre	1951	1956	Province and Incorporated Centre	1951	1956
	No.	No.		No.	No.
Newfoundland—			Nova Scotia—concluded		
Bay Roberts.....	1,222	1,306	Windsor.....	3,439	3,651
Burgeo.....	891	1,138	Wolfville.....	2,313	2,497
Burin.....	796	1,116	Yarmouth.....	8,106	8,095
Carbonear.....	3,351	3,955			
Channel-Port aux Basques.....	2,634	3,320	New Brunswick—		
Clarenville.....	1	1,195	Bathurst.....	4,453	5,267
Corner Brook.....	a	23,225	Campbellton.....	7,754	8,389
Deer Lake.....	2,655	3,481	Chatham.....	5,223	6,353
Fogo.....	1,078	1,184	Dalhousie.....	4,939	5,468
Fortune.....	867	1,194	Dieppe.....	3,402	3,876
Freshwater.....	810	1,048	Edmundston.....	10,753	11,997
Grand Bank.....	2,148	2,430	*Fredericton.....	16,018	18,303
Harbour Grace.....	2,331	2,545	Grand Falls.....	2,365	3,672
Lewisporte.....	1,218	2,076	Hartland.....	1,000	1,022
Marystown.....	1	1,460	Lancaster.....	1	12,371
Mount Pearl Park-Glendale.....	1	1,979	Marysville.....	2,152	2,538
Placentia.....	614 ³	1,233	Milltown.....	2,267	1,975
*St. Anthony.....	1,380	1,761	Moncton.....	27,334	36,003
*St. John's.....	52,873	57,078	Newcastle.....	4,248	4,670
*St. Lawrence.....	1,451	1,837	St. Andrews.....	1,458	1,534
Stephenville.....	1	3,762	St. George.....	1,263	1,322
Wabana.....	6,460	7,873	St. Leonard.....	1,419	1,593
Wesleyville.....	1,304	1,313	St. Stephen.....	3,789	3,491
Windsor.....	3,674	4,520	Sackville.....	2,873	2,849
			Saint John.....	50,779	52,491
			Shediac.....	2,010	2,173
Prince Edward Island—			Shippagan.....	1,181	1,362
*Charlottetown.....	15,887	16,707	Sussex.....	3,224	3,403
Montague.....	1,068	1,152	Woodstock.....	3,996	4,308
Parkdale.....	1	1,422			
Souris.....	1,183	1,449			
Spring Park.....	1	1,370			
Summerside.....	6,547	7,242			
			Quebec—		
Nova Scotia—			Acton Vale.....	3,367	3,547
Amherst.....	9,870	10,301	Alma.....	7,975	10,822
Antigonish.....	3,196	3,592	Amos.....	4,265	5,145
Berwick.....	1,045	1,134	Amqui.....	2,599	3,247
Bridgetown.....	1,038	1,041	Anjou.....	1,501 ⁴	2,140
Bridgewater.....	4,010	4,445	Arthabaska.....	2,321	2,399
Canso.....	1,313	1,261	Arvida.....	11,078	12,919
Dartmouth.....	15,037	21,093	Asbestos.....	8,190	8,969
Digby.....	2,047	2,145	Ayersville.....	1	2,348
Dominion.....	3,143	2,964	Aylmer.....	4,375	5,294
Glace Bay.....	25,586	24,416	Bagotville.....	4,136	4,822
*Halifax.....	85,589	93,301	Baie Comeau.....	3,972	4,332
Hantsport.....	1,131	1,298	Baie de Shawinigan.....	1,223	1,137
Inverness.....	2,360	2,026	Baie d'Urée.....	719	1,838
Kentville.....	4,240	4,937	Baie St. Paul.....	3,716	4,052
Liverpool.....	3,535	3,500	Barrabte.....	500	1,081
Lockeport.....	1,225	1,207	Beaconsfield.....	1,888	5,496
Louisburg.....	1,120	1,314	Beauceville.....	1,149	1,459
Lunenburg.....	2,816	2,859	Beauceville E.....	1,573	1,740
Mahone Bay.....	1,019	1,109	Beauharnois.....	5,694	6,774
Middleton.....	1,506	1,769	Beaurport.....	5,390	6,735
Mulgrave.....	1,212	1,227	Beaupré.....	2,015 ⁵	2,381
New Glasgow.....	9,933	9,998	Bedford.....	2,073	2,272
New Waterford.....	10,423	10,381	Beebe Plain.....	1,352	1,363
North Sydney.....	7,354	8,125	Belœil.....	2,992	3,966
Oxford.....	1,466	1,545	Bernierville.....	1,959	2,431
Parrsboro.....	1,906	1,849	Berthierville.....	3,325	3,504
Pictou.....	4,259	4,564	Bic.....	1,086	1,142
Port Hawkesbury.....	1,034	1,078	Black Lake.....	2,800	3,685
Shelburne.....	2,040	2,337	Bois des Filion.....	787	1,648
Springhill.....	7,138	7,348	Boucherville.....	1,583	3,911

**8.—Incorporated Cities, Towns and Villages having Populations of 1,000 or Over in 1956,
by Province, with Comparable Data for 1951—continued**

Province and Incorporated Centre	1951	1956	Province and Incorporated Centre	1951	1956
No.	No.	No.	No.	No.	No.
Quebec—continued			Quebec—continued		
Cap de la Madeleine.....	18,667	22,943	La Prairie.....	4,058	5,372
Causapscal.....	2,609	2,857	La Providence.....	2,693	3,826
Chambly.....	2,160	2,817	LaSalle.....	11,633	18,973
Chambord.....	1,070	1,091	La Sarre.....	2,744	3,155
Chandler.....	2,326	3,338	L'Assomption.....	2,688	3,683
Charlemagne.....	1,856	2,428	La Tuque.....	9,538	11,096
Charlesbourg.....	5,734	8,202	Laurentides.....	1,465	1,513
Charny.....	3,300	3,639	Laizon.....	9,643	10,255
Châteauguay.....	2,240	3,265	Laval des Rapides.....	4,998	11,248
Châteauguay Heights.....	627	1,146	Laval W.....	1,935	3,818
Chibougamau.....	1	1,262	LeMoine.....	4,078	5,662
Chicoutimi.....	23,111	24,878	Lennoxville.....	2,895	3,149
Chicoutimi N.....	3,966	6,446	L'Épiphanie.....	2,462	2,671
Clermont.....	2,027	2,628	Léry.....	1,194	1,573
Coaticook.....	6,341	6,492	Lévis.....	13,162	13,644
Contrecoeur.....	1,435	1,662	Liniers.....	949	1,149
Cookshire.....	1,209	1,315	L'Isletville.....	830	1,051
Côte St. Luc.....	1,083	5,914	L'Isle Verte.....	1	1,456
Courville.....	3,138	3,772	Longueuil.....	11,103	14,332
Cowansville.....	4,431	5,242	Loretteville.....	4,382	4,957
Crabtree.....	983	1,103	Louiseville.....	4,088	4,392
Danville.....	2,092	2,296	Luceville.....	1,059	1,265
Deschailons sur St. Laurent.....	1,185	1,266	Lyster.....	961	1,010
Deschambault.....	954	1,002	Macamic.....	1,123	1,388
Deschênes.....	1,169	1,680	Mackayville.....	6,494	9,958
Disraeli.....	2,145	2,473	Magog.....	12,423	12,720
Dolbeau.....	4,307	5,079	Malartic.....	5,983	6,818
Donnacona.....	3,663	4,147	Maniwaki.....	3,835	5,399
Dorion.....	2,413	3,089	Maple Grove.....	847	1,115
Dorval.....	5,293	14,055	Marieville.....	3,117	3,478
Drummondville.....	14,341	26,284	Masson.....	1,475	1,656
Drummondville W.....	1,275	1,606	Matane.....	6,345	8,069
Duparquet.....	1,485	1,144	McMasterville.....	1,509	1,738
East Angus.....	3,714	4,239	Mégantic.....	6,164	6,864
East Broughton Station.....	1	1,060	Melocheville.....	1,300	1,422
Farnham.....	4,926	5,843	Mistassini.....	2,298	2,912
Ferme Neuve.....	1,660	1,891	Montebello.....	1,397	1,287
Forestville.....	709	1,117	Mont Joli.....	4,938	6,179
Fort Chambly.....	1,636	1,885	Mont Laurier.....	4,701	5,486
Fort Coulonge.....	1,431	1,633	Montmagny.....	5,844	6,405
Gaspé.....	1,692	2,194	Montmorency.....	5,817	6,077
Gatineau.....	5,771	8,423	Montreal.....	1,021,520	1,109,439
Giffard.....	8,097	9,964	Montreal E.....	4,513	4,607
Granby.....	21,989	27,095	Montreal N.....	14,081	25,407
Grande Rivière.....	932	1,024	Montreal S.....	4,214	5,319
Grand'Mère.....	11,089	14,023	Montreal W.....	3,721	4,370
Greenfield Park.....	3,379	4,417	Mount Royal.....	11,352	16,990
Grenville.....	1,069	1,277	Murdochville.....	1	1,694
Hampstead.....	3,260	4,355	Napierville.....	1,356	1,510
Hauterive.....	283	1,762	Naudville.....	1,430	2,894
Hébertville Station.....	1,038	1,214	Nicolet.....	4,084	3,771
Hudson.....	1,283	1,549	Noranda.....	9,672	10,323
Hudson Heights.....	925	1,289	Normandin.....	1,678	1,918
Hull.....	43,483	49,243	Notre Dame d'Hébertville.....	1,285	1,542
Huntingdon.....	2,806	2,995	Notre Dame de Lorette.....	2,516	3,464
Iberville.....	5,185	6,270	Notre Dame de Portneuf.....	1,144	1,251
Île Perrot.....	2,008 ⁵	2,600	Notre Dame du Lac.....	1,364	1,512
Isle Maligne.....	482	1,761	Ornstown.....	1,233	1,347
Jacques Cartier.....	22,450	33,132	Outremont.....	30,057	29,990
Joliette.....	16,064	16,940	Papineauville.....	1,024	1,141
Jonquière.....	21,618	25,560	Parent.....	1,255	1,443
Kénogami.....	9,895	11,309	Pierreville.....	1,448	1,589
Knowlton.....	1,094	1,328	Pincourt.....	521	1,437
Labelle.....	1,003	1,150	Plessisville.....	5,094	5,829
L'Abord à Plouffe.....	4,604	8,099	Pointe à Catineau.....	3,874	6,175
Lac au Saumon.....	1,622	1,681	Pointe au Pic.....	1,105	1,220
Lachine.....	27,773	34,494	Pointe aux Trembles.....	8,241	11,981
Lachute.....	6,179	6,911	Pointe Claire.....	8,753	15,208
Lacolle.....	1,055	1,141	Pont Rouge.....	2,413	2,631
La Guadeloupe.....	1,321	1,487	Pont Viau.....	5,129	8,218
La Malbaie.....	2,466	2,817	Port Alfred.....	3,937	7,968
La Pérade.....	1,111	1,282	Price.....	2,810	3,140
La Petite Rivière.....	740 ⁴	1,353	Princeville.....	1,967	2,841

8.—Incorporated Cities, Towns and Villages having Populations of 1,000 or Over in 1956, by Province, with Comparable Data for 1951—continued

Province and Incorporated Centre	1951	1956	Province and Incorporated Centre	1951	1956
	No.	No.		No.	No.
Quebec—continued			Quebec—concluded		
*Quebec.....	164,016	170,703	Ste. Rosalie.....	1,038	1,142
Quebec W.....	7,295	7,945	Ste. Rose.....	3,680	5,378
Rawdon.....	1,912	2,049	St. Sauveur des Monts.....	1,066	1,816
Richelieu.....	1,129	1,398	St. Siméon.....	1,103	1,114
Richmond.....	3,471	3,849	Ste. Thècle.....	1,468	1,499
Rigaud.....	1,579	1,784	Ste. Thérèse.....	7,038	8,286
Rimouski.....	11,565	14,630	St. Tite.....	2,850	3,183
Rimouski E.....	889	1,209	St. Vincent de Paul.....	1	6,784
Rivière des Prairies.....	4,072 ⁷	6,806	Sayabec.....	2,220	2,281
Rivière du Loup.....	9,425	9,964	Schefferville.....	1	1,632
Rivière du Moulin.....	2,685	4,138	Scotstown.....	1,350	1,847
Robertsonville.....	665	1,030	Senneville.....	1,688	2,197
Roberval.....	4,897	6,648	Sept Îles.....	1,860	5,592
Rock Island.....	1,646	1,608	Shawinigan East.....	1	2,451
Rouyn.....	14,633	17,076	Shawinigan Falls.....	26,903	28,597
Roxboro.....	459	1,910	Shawinigan South.....	6,637	10,947
Roxton Falls.....	945	1,023	Shawville.....	1,159	1,281
Ste. Adèle.....	961	1,309	Sherbrooke.....	50,543	58,668
Ste. Agapitville.....	922	1,079	Sillery.....	10,376	13,154
Ste. Agathe des Monts.....	5,169	5,173	Sorel.....	14,961	16,476
St. Ambroise.....	1,032	1,305	Stanstead Plain.....	995	1,134
Ste. Anne de Beaupré.....	1,827	1,865	Sutton.....	1,389	1,407
Ste. Anne de Bellevue.....	3,342	3,647	Tadoussac.....	1,064	1,066
St. Anselme.....	991	1,086	Temiscaming.....	2,787	2,694
St. Antoine des Laurentides.....	1	2,092	Templeton.....	1,717	2,475
St. Basile S.....	1,347	1,635	Terrebonne.....	3,200	4,097
St. Casimir.....	1,334	1,447	Thetford Mines.....	15,085	19,511
St. Césaire.....	1,658	1,739	Thurso.....	1,973	2,324
St. Coeur de Marie.....	1,061	1,282	Tracy.....	3,847 ⁸	6,542
Ste. Croix.....	1,080	1,241	Tring Junction.....	751	1,083
St. Cyrille.....	1,189	1,198	Trois Pistoles.....	3,537	4,039
Ste. Dorothee.....	726	1,158	Trois Rivières.....	46,074	50,483
St. Elzéar.....	1,596 ⁹	2,589	Val David.....	940	1,016
St. Émile.....	1,415 ⁹	1,645	Val d'Or.....	8,685	9,876
St. Émilien.....	1,651	2,014	Vallée Junction.....	1,279	1,340
St. Eustache.....	2,615	3,740	Valleyfield (Salaberry de).....	22,414	23,584
St. Eustache sur le Lac.....	3,211	5,830	Val St. Michel.....	689	1,140
St. Félicien.....	2,656	4,152	Varennes.....	1,104	2,047
St. Félix de Valois.....	1,201	1,323	Verchères.....	1,201	1,412
Ste. Foy.....	5,236	14,615	Verdun.....	77,391	78,262
St. Fulgence.....	902	1,054	Victoriaville.....	13,124	16,031
St. Gabriel de Brandon.....	2,661	3,265	Ville Marie.....	1,316	1,409
Ste. Geneviève de Pierrefonds.....	1,322	2,041	Villeneuve ⁹	1,096	1,417
St. Georges (Beauce Co.).....	2,657	3,197	Warwick.....	2,094	2,248
St. Georges (Champlain Co.).....	1,143	1,454	Waterloo.....	4,054	4,266
St. Georges W. (Beauce Co.).....	2,691	3,643	Waterville.....	1,205	1,373
St. Hilaire.....	1,436	2,000	Weedon Centre.....	1,066	1,287
St. Hyacinthe.....	20,236	20,439	Westmount.....	25,222	24,800
St. Jacques.....	1,729	1,979	Windsor.....	4,714	5,886
St. Jean.....	19,305	24,367			
St. Jean de Boischatel.....	1,297	1,461			
St. Jean Eudes.....	1	2,560			
St. Jérôme (Lac St. Jean Co.).....	1,480	1,505	Ontario—		
St. Jérôme (Terrebonne Co.).....	17,685	20,645	Acton.....	2,880	3,578
St. Joseph (Beauce Co.).....	2,417	2,484	Ajax.....	4,168 ¹⁰	5,683
St. Joseph (St. Hyacinthe Co.).....	2,122	2,708	Alexandria.....	2,204	2,487
St. Joseph de la Rivière Bleue.....	1,334	1,481	Alfred.....	1	1,257
St. Joseph de Sorel.....	3,349	3,571	Alliston.....	1,987	2,426
St. Jovite.....	1,453	1,613	Almonte.....	2,672	2,960
St. Lambert.....	8,615	12,224	Amherstburg.....	3,638	4,099
St. Laurent.....	20,426	38,291	Arnprior.....	4,381	5,137
St. Marc des Carrières.....	2,351	2,457	Arthur.....	1,088	1,124
Ste. Marie.....	2,431	3,094	Aurora.....	3,358	3,957
St. Martin.....	1	6,440	Aylmer.....	3,483	4,201
St. Michel (Montreal Island).....	10,539	24,706	Bancroft.....	1,834	1,669
St. Noël.....	830	1,027	Barrie.....	12,514	16,851
St. Pacôme.....	1,197	1,283	Barry's Bay.....	1,218	1,366
St. Pascal.....	1,736	1,962	Beamsville.....	1,712	2,198
St. Pie.....	1,182	1,228	Beaverton.....	1,048	1,099
St. Pierre (Montreal Island).....	4,976	5,276	Belle River.....	1,431	1,814
St. Raphaël.....	955	1,059	Belleville.....	19,519	20,605
St. Raymond.....	3,139	3,502	Blenheim.....	2,459	2,844
St. Rémi.....	1,845	2,303	Blind River.....	2,512	3,653
			Bobcaygeon.....	1,207	1,242

For footnotes, see end of table, p. 153.

8.—Incorporated Cities, Towns and Villages having Populations of 1,000 or Over in 1956, by Province, with Comparable Data for 1951—continued

Province and Incorporated Centre	1951	1956	Province and Incorporated Centre	1951	1956
No.	No.	No.	No.	No.	No.
Ontario—continued			Ontario—continued		
Bolton.....	820	1,093	Hearst.....	1,723	2,214
Bowmanville.....	5,430	6,544	Hespeler.....	3,862	3,876
Bracebridge.....	2,684	2,849	Huntsville.....	3,286	3,051
Bradford.....	1,483	2,010	Ingersoll.....	6,524	6,811
Brampton.....	8,389	12,587	Iroquois.....	1,088	1,078
Brantford.....	36,727	51,869	Iroquois Falls.....	1,342	1,478
Bridgeport.....	1,137	1,402	Kapuskasing.....	4,687	5,463
Brighton.....	1,967	2,182	Keewatin.....	1,634	1,949
Brookville.....	12,301	13,885	Kemptville.....	1,488	1,730
Bronte.....	1	2,024	Kenora.....	8,685	10,278
Burlington.....	6,017	9,127	Kincardine.....	2,672	2,667
Burlington Beach.....	2,827	3,314	Kingston.....	33,459	48,618
Caledonia.....	1,681	2,078	Kingsville.....	2,631	2,884
Campbellford.....	3,235	3,425	Kitchener.....	44,867	59,562
Capreol.....	2,002	2,394	Lakefield.....	1,710	1,938
Cardinal.....	1,782	1,994	La Salle.....	1,854	2,703
Carleton Place.....	4,725	4,790	Leamington.....	6,950	7,856
Casselman.....	1,158	1,241	Leaside.....	16,233	16,538
Chatham.....	21,218	22,262	Levack.....	1,833	2,929
Chelmsford.....	1,210	2,142	Lindsay.....	9,603	10,110
Chesley.....	1,672	1,629	Listowel.....	3,469	3,644
Chesterville.....	1,094	1,169	Little Current.....	1,397	1,514
Chippawa.....	1,762	2,039	Lively.....	1	2,840
Clinton.....	2,547	2,896	London.....	95,343	101,693
Cobalt.....	2,230	2,367	Long Branch.....	8,727	10,249
Cobourg.....	7,470	9,399	L'Orignal.....	967	1,067
Cochrane.....	3,401	3,695	Madoc.....	1,240	1,325
Colborne.....	1,108	1,240	Markham.....	1,606	2,873
Collingwood.....	7,413	7,978	Marmora.....	1,117	1,428
Coniston.....	2,292	2,478	Massey.....	937	1,068
Copper Cliff.....	3,974	3,801	Mattawa.....	3,097	3,208
Cornwall.....	16,899	18,158	Meaford.....	3,178	3,643
Crystal Beach.....	1,204	1,850	Merriton.....	4,714	5,404
Delhi.....	2,517	3,002	Midland.....	7,206	8,250
Deseronto.....	1,522	1,729	Milton.....	2,451	4,294
Dresden.....	2,052	2,260	Milverton.....	1,055	1,070
Dryden.....	2,627	4,428	Mimico.....	11,342	13,687
Dundas.....	6,846	9,507	Mitchell.....	1,979	2,146
Dunnville.....	4,478	4,776	Morrisburg.....	1,858	2,131
Durham.....	1,839	2,067	Mount Forest.....	2,291	2,438
Eastview.....	13,799	19,283	Napanee.....	3,897	4,273
Eganville.....	1,326	1,598	Newcastle.....	958	1,098
Elmira.....	2,589	2,916	New Hamburg.....	1,738	1,939
Elora.....	1,348	1,457	New Liskeard.....	4,215	4,619
Englehart.....	1,585	1,705	Newmarket.....	5,356	7,368
Essex.....	2,741	3,348	New Toronto.....	11,194	11,560
Exeter.....	2,547	2,655	Niagara.....	2,108	2,740
Fenelon Falls.....	1,304	1,137	Niagara Falls.....	22,874	23,563
Fergus.....	3,387	3,677	North Bay.....	17,944	21,020
Fonthill.....	1,412	1,872	Norwich.....	1,439	1,611
Forest.....	1,790	2,035	Norwood.....	925	1,017
Forest Hill.....	15,305	19,480	Oakville.....	6,910	9,983
Fort Erie.....	7,572	8,632	Orangeville.....	3,249	3,887
Fort Frances.....	8,038	9,005	Orillia.....	12,110	13,857
Fort William.....	34,947	39,464	Oshawa.....	41,545	50,412
Frankford.....	1,393	1,491	Ottawa.....	202,045	222,129
Galt.....	19,207	23,738	Owen Sound.....	16,423	16,976
Gananoque.....	4,572	4,981	Palmerston.....	1,573	1,550
Georgetown.....	3,452	5,942	Paris.....	5,249	5,504
Geraldton.....	3,227	3,263	Parkhill.....	991	1,043
Glencoe.....	979	1,044	Parry Sound.....	5,183	5,378
Goderich.....	4,934	5,886	Pembroke.....	12,704	15,434
Gravenhurst.....	3,005	3,014	Penetanguishene.....	4,949	5,420
Grimsby.....	2,773	3,805	Perth.....	5,034	5,145
Guelph.....	27,386	33,860	Peterborough.....	38,272	42,698
Hagersville.....	1,746	1,964	Petrolia.....	3,105	3,426
Haileybury.....	2,346	2,654	Pickering.....	1	1,150
Hamilton.....	208,321	259,625	Pictou.....	4,287	4,998
Hanover.....	3,533	3,943	Point Edward.....	1,838	2,558
Harriston.....	1,494	1,592	Port Arthur.....	31,161	38,136
Harrow.....	1,519	1,851	Port Colborne.....	8,275	14,028
Havelock.....	1,132	1,205	Port Credit.....	3,643	6,350
Hawkesbury.....	7,194	7,929	Port Dalhousie.....	2,616	3,087

For footnotes, see end of table, p. 153.

8.—Incorporated Cities, Towns and Villages having Populations of 1,000 or Over in 1956, by Province, with Comparable Data for 1951—continued

Province and Incorporated Centre	1951	1956	Province and Incorporated Centre	1951	1956
	No.	No.		No.	No.
Ontario—concluded			Manitoba—		
Port Dover.....	2,440	2,790	Altona.....	1,438	1,698
Port Elgin.....	1,558	1,597	Beauséjour.....	1,376	1,523
Port Hope.....	6,548	7,522	Boissevain.....	1,015	1,115
Port Perry.....	1,721	2,121	Brandon.....	20,598	24,796
Port Stanley.....	1,491	1,480	Brooklands.....	2,915	3,941
Prescott.....	3,518	4,920	Carberry.....	912	1,065
Preston.....	7,619	9,387	Carman.....	1,867	1,884
Rainy River.....	1,348	1,354	Dauphin.....	6,007	6,190
Renfrew.....	7,360	8,634	Flin Flon.....	9,899	10,234
Richmond Hill.....	2,164	6,677	Gimli.....	1,324	1,660
Ridgeway.....	2,365	2,483	Killarney.....	1,262	1,434
Riverside.....	9,214	13,335	Minnedosa.....	2,085	2,306
Rockcliffe Park.....	1,595	2,097	Morden.....	1,862	2,237
Rockland.....	2,843	2,757	Morris.....	1,193	1,260
Rodney.....	885	1,026	Negapa.....	2,895	3,109
St. Catharines.....	37,984	39,708	Portage la Prairie.....	8,511	10,525
St. Mary's.....	3,995	4,185	Powerview.....	1,078	
St. Thomas.....	19,173	19,129	Rivers.....	1,209	1,422
Sarnia.....	34,697	43,447	Roblin.....	1,055	1,173
Sault Ste. Marie.....	32,452	37,329	Russell.....	1,100	1,227
Seaforth.....	2,118	2,128	St. Boniface.....	26,342	28,851
Shelburne.....	1,184	1,245	St. James.....	19,561 ^a	26,502
Simcoe.....	7,269	8,078	Selkirk.....	6,218	7,413
Sioux Lookout.....	2,364	2,504	Souris.....	1,584	1,759
Smith's Falls.....	8,441	8,967	Steinbach.....	2,155	2,683
Smooth Rock Falls.....	1,102	1,104	Stonewall.....	1,040	1,110
Southampton.....	1,700	1,640	Swan River.....	2,290	2,644
Stayner.....	1,280	1,429	The Pas.....	3,376	3,971
Stirling.....	1,100	1,191	Transcona.....	6,752	8,312
Stoney Creek.....	1,922	4,506	Tuxedo.....	1,627	1,163
Stouffville.....	1,695	2,307	Verden.....	1,746	3,225
Stratford.....	18,735	19,972	Winkler.....	1,331	1,634
Strathroy.....	3,708	4,240		235,710	255,093
Streetsville.....	1,139	2,648			
Sturgeon Falls.....	4,962	5,874	Saskatchewan—		
Sudbury.....	42,410	46,482	Assiniboia.....	1,938	2,027
Sutton.....	1,168	1,310	Battleford.....	1,319	1,498
Swansea.....	8,072	8,595	Biggar.....	2,214	2,424
Tavistock.....	1,094	1,155	Canora.....	1,568	1,873
Tecumseh.....	3,643	4,209	Creighton.....	1	1,659
Thamesville.....	968	1,074	Estevan.....	3,935	5,264
Thessalon.....	1,595	1,716	Eston.....	1,301	1,625
Thornbury.....	971	1,037	Fort Qu'Appelle.....	878	1,130
Thorold.....	6,397	8,053	Gravelbourg.....	1,197	1,434
Tilbury.....	2,632	3,138	Grenfell.....	1,007	1,080
Tillsonburg.....	5,330	6,216	Gull Lake.....	728	1,052
Timmins.....	27,743	27,551	Hudson Bay.....	1,115	1,421
*Toronto.....	675,754	667,706	Humboldt.....	2,435	2,916
Trenton.....	10,085	11,492	Indian Head.....	1,569	1,721
Tweed.....	1,562	1,634	Kamsack.....	2,327	2,843
Uxbridge.....	1,785	2,065	Kerobert.....	807	1,037
Yankleek Hill.....	1,480	1,647	Kindersley.....	1,755	2,572
Victoria Harbour.....	953	1,012	Leader.....	835	1,085
Walkerton.....	3,264	3,698	Lloydminster.....	3,938	5,077
Wallaceburg.....	7,688	7,892	Maple Creek.....	1,638	1,974
Waterdown.....	1,347	1,754	Meadow Lake.....	1,956	2,477
Waterford.....	1,745	1,908	Melfort.....	2,919	3,322
Waterloo.....	11,991	16,373	Melville.....	4,458	4,948
Watford.....	1,201	1,217	Moose Jaw.....	24,355	29,603
Welland.....	15,382	16,405	Moosomin.....	1,235	1,390
Wellington.....	982	1,077	Nipawin.....	3,050	3,337
West Lorne.....	1,031	1,088	North Battleford.....	7,473	8,924
Weston.....	8,677	9,543	Prince Albert.....	17,149	20,366
Wheatley.....	1,021	1,196	Radville.....	973	1,087
Whitby.....	7,267	9,995	*Regina.....	71,319	89,755
Warton.....	1,955	1,954	Rosetown.....	1,865	2,262
Winchester.....	1,201	1,338	Rosthern.....	1,183	1,268
Windsor.....	120,049	121,980	Saskatoon.....	53,268	72,858
Wingham.....	2,642	2,766	Shaunavon.....	1,625	1,959
Woodbridge.....	1,699	1,958	Swift Current.....	7,458	10,612
Woodstock.....	15,544	18,347	Tisdale.....	2,141	2,104
			Unity.....	1,248	1,607
			Wadena.....	1,081	1,154

For footnotes, see end of table, p. 153.

8.—Incorporated Cities, Towns and Villages having Populations of 1,000 or Over in 1956, by Province, with Comparable Data for 1951—concluded

Province and Incorporated Centre	1951	1956	Province and Incorporated Centre	1951	1956
No.	No.	No.	No.	No.	No.
Saskatchewan—concluded			Alberta—concluded		
Watrous.....	1,228	1,340	Wainwright.....	1,996	2,653
Weyburn.....	7,148	7,684	Westlock.....	1,111	1,136
Wilkie.....	1,580	1,630	Wetaskiwin.....	3,824	4,476
Wolseley.....	983	1,001			
Wynyard.....	1,326	1,522			
Yorkton.....	7,074	8,256			
Alberta—			British Columbia—		
Athabasca.....	1,068	1,293	Alberni.....	3,323	3,947
Barrhead.....	1,243	1,610	Armstrong.....	1,126	1,197
Beverly.....	2,169	4,602	Burns Lake.....	801	1,016
Blairmore.....	1,933	1,973	Campbell River.....	1,986	3,069
Bonnyville.....	1,139	1,495	Castlegar.....	1,329	1,705
Bow Island.....	653	1,001	Chilliwack.....	5,663	7,297
Bowness.....	2,922	6,217	Comox.....	714	1,151
Brooks.....	1,648	2,320	Courtenay.....	2,553	3,025
Calgary.....	129,060	181,780	Cranbrook.....	3,621	4,562
Camrose.....	4,131	5,817	Creston.....	1,626	1,844
Cardston.....	2,487	2,607	Cumberland.....	971	1,039
Clareholm.....	1,608	2,431	Dawson Creek.....	3,589	7,531
Coaldale.....	806	2,327	Duncan.....	2,784	3,247
Cold Lake.....	1	1,097	Fernie.....	2,551	2,808
Coleman.....	1,961	1,566	Fort St. John.....	884	1,908
Devon.....	842	1,429	Grand Forks.....	1,646	1,995
Didsbury.....	1,180	1,237	Hope.....	1,668	2,226
Drayton Valley.....	1	2,588	Kamloops.....	8,099	9,096
Drumheller.....	2,601	2,632	Kelowna.....	8,517	9,181
*Edmonton.....	159,631	226,002	Kimberley.....	5,933	5,774
Edson.....	1,956	2,560	Kinnaird.....	947	1,305
Fairview.....	929	1,260	Ladysmith.....	2,094	2,107
Forest Lawn.....	1,079	3,150	Lake Cowichan.....	1,628	1,949
Fort Macleod.....	1,860	2,103	Langley.....	1	2,131
Fort Saskatchewan.....	1,076	2,582	Lillooet.....	469	1,083
Grande Prairie.....	2,664	6,302	Merritt.....	1,251	1,790
Hanna.....	2,027	2,327	Mission City.....	2,668	3,010
High Prairie.....	1,141	1,743	Nanaimo.....	7,196	12,705
High River.....	1,888	2,102	Nelson.....	6,772	7,226
Innisfail.....	1,417	1,883	New Westminster.....	28,639	31,665
Jasper Place.....	9,139	15,957	North Kamloops.....	1,979	4,398
Lacombe.....	2,277	2,747	North Vancouver.....	15,687	19,951
Leduc.....	1,842	2,008	Oliver.....	1,000	1,147
Lethbridge.....	22,947	29,462	Parksville.....	882	1,112
Magrath.....	1,320	1,382	Penticton.....	10,548	11,894
McLennan.....	1,074	1,092	Port Alberni.....	7,845	10,373
McMurray.....	926	1,110	Port Coquitlam.....	3,232	4,632
Medicine Hat.....	16,364	20,826	Port Moody.....	2,246	2,713
Nanton.....	934	1,047	Prince George.....	4,703	10,563
Olds.....	1,617	1,980	Prince Rupert.....	8,546	10,498
Peace River.....	1,672	2,034	Princeton.....	1	2,245
Pincher Creek.....	1,456	1,729	Quesnel.....	1,587	4,384
Ponoka.....	2,574	3,387	Revelstoke.....	2,917	3,469
Raymond.....	2,279	2,399	Rossland.....	4,604	4,344
Redcliff.....	1,538	2,001	Salmon Arm.....	1,201	1,344
Red Deer.....	7,575	12,338	Sidney.....	1	1,371
Redwater.....	1,306	1,065	Smithers.....	1,204	1,962
Rocky Mountain House.....	1,147	1,285	Squamish.....	589	1,292
St. Albert.....	1,129	1,320	Terrace.....	961	1,473
St. Paul.....	1,407	2,229	Trail.....	11,430	11,395
Stettler.....	2,442	3,359	Vancouver.....	344,833	365,844
Stony Plain.....	878	1,098	Vanderhoof.....	644	1,085
Sylvan Lake.....	985	1,114	Vernon.....	7,822	8,998
Taber.....	3,042	3,688	*Victoria.....	51,331	54,584
Three Hills.....	1,026	1,095	Warfield.....	1	2,051
Vegreville.....	2,223	2,574	William's Lake.....	913	1,790
Vermilion.....	1,882	2,196			
Vulcan.....	1,040	1,204			
			Yukon—		
			*Whitehorse.....	2,594	2,570

¹ Not incorporated in 1951.² Towns of Corner Brook E., Corner Brook W. and Curling amalgamated

to form part of Corner Brook city Jan. 1, 1956.

³ Rural District in 1951.⁴ Rural municipality of St. Leonard

de Port Maurice in 1951.

⁵ Rural municipality in 1951.⁶ Previous to 1953 called Lac St. Louis.⁷ Rural

municipality of St. Joseph de la Rivière des Prairies in 1951.

⁸ Rural municipality of St. Joseph in 1951.

Previous to June 16, 1951, called Beauport E.

¹⁰ Improvement District in 1951.

Subsection 4.—Sex and Age Distribution

Sex.—The sex distribution of the Canadian people has been characterized since early colonial times by a preponderance of males although this condition has been greatly modified in more recent years. In 1666 during the early years of settlement by French immigrants 63.3 p.c. of the population were males. In 1784 when British immigration to Canada was commencing there were 54,064 males and 50,759 females and by the middle of the nineteenth century there were 449,967 males to 440,294 females in Lower Canada and 499,067 males to 452,937 females in the more newly settled Upper Canada.

Since Confederation the newer sections of Canada—the west and the northwest—have shown the greatest excess of males. From 1871 to 1941, for Canada as a whole, the proportion of males never dropped below 51 p.c. of the total population whereas for Western Canada it varied between 53 p.c. and 59 p.c. By 1951, however, the proportion of males to the total population had dropped to 50.6 p.c. for Canada as a whole and in 1956 was 50.7 p.c.

9.—Sex Distribution of the Population, by Province, Census Years 1941, 1951 and 1956

NOTE.—Figures for the census years 1871–1931 are given in the 1948–49 Year Book, p. 150.

Province or Territory	1941		1951		1956	
	Male	Female	Male	Female	Male	Female
	No.	No.	No.	No.	No.	No.
Newfoundland.....	...	...	185,143	176,273	213,905	201,169
Prince Edward Island.....	49,228	45,819	50,218	48,211	50,510	48,775
Nova Scotia.....	296,044	281,918	324,955	317,629	353,182	341,535
New Brunswick.....	234,097	223,304	259,211	256,486	279,590	275,026
Quebec.....	1,672,982	1,658,900	2,022,127	2,033,554	2,317,677	2,310,701
Ontario.....	1,921,201	1,866,454	2,314,170	2,283,372	2,721,519	2,683,414
Manitoba.....	378,079	351,665	394,818	381,723	432,478	417,562
Saskatchewan.....	477,563	418,429	434,568	397,160	458,428	422,237
Alberta.....	426,458	369,711	492,192	447,309	585,921	537,195
British Columbia.....	435,031	382,830	596,961	568,249	720,516	677,948
Yukon.....	3,153	1,761	5,457	3,639	6,924	5,266
Northwest Territories.....	6,700	5,328	9,053	6,951	11,229	8,084
Canada.....	5,900,536	5,606,119	7,088,873	6,920,556	8,151,879	7,928,912

Age.—The age distribution of a population is fundamental to most, if not all, other analyses, for the age factor influences employment, marriage, birth rates and death rates, education, immigration, criminology, and a multitude of events and activities that are of great importance in the national life.

Recent trends in vital rates and immigration have considerably changed the age composition of the population of Canada. A high birth rate together with a low death rate among children added, between 1951 and 1956, nearly 1,000,000 to the population under 15 years of age and raised the proportion of this group to the total population from 30.3 p.c. to 32.5 p.c. On the other hand, the relative proportion of the working-age groups—persons from 15 to 64 years of age—was 2 p.c. lower at 59.8 p.c. in 1956 than in 1951 when 61.9 p.c. were in this age group. Without the influx of immigrants during the 1951–56 period, the proportion of this productive group would have been much lower since a large part of it consists of the survivors of those born in the 1930's when birth rates were at their lowest. The proportion of persons 65 years of age or over was slightly less than 8 p.c. at both census dates.

Table 10 shows the population of Canada classified by five-year age groups and sex for the census years 1941, 1951 and 1956. The provincial distribution by specified age groups as recorded in the 1956 Census is shown in Table 11.

10.—Male and Female Populations, by Age Group, Census Years 1941, 1951 and 1956

Age Group	1941		1951		1956	
	Male	Female	Male	Female	Male	Female
	No.	No.	No.	No.	No.	No.
0 - 4 years.....	533,903	517,951	879,063	843,046	1,011,835	971,728
5 - 9 ".....	529,092	516,728	713,873	683,952	919,952	887,101
10 - 14 ".....	556,304	544,573	575,122	555,661	732,032	702,562
15 - 19 ".....	565,212	554,823	532,180	525,792	586,635	575,666
20 - 24 ".....	517,956	514,470	537,535	551,106	567,179	561,931
25 - 29 ".....	488,340	478,650	552,812	578,403	605,836	592,301
30 - 34 ".....	431,591	412,255	512,557	530,177	602,535	613,750
35 - 39 ".....	396,453	363,101	503,571	495,562	555,763	558,622
40 - 44 ".....	348,616	327,929	445,800	422,767	522,615	502,784
45 - 49 ".....	332,503	302,643	387,708	356,971	455,827	422,988
50 - 54 ".....	315,866	275,838	340,461	322,195	381,835	351,215
55 - 59 ".....	275,234	231,658	292,564	278,126	321,973	307,271
60 - 64 ".....	218,557	188,594	264,324	241,828	265,652	250,265
65 - 69 ".....	162,517	145,207	228,076	205,421	237,551	226,562
70 - 74 ".....	111,152	105,949	160,398	154,674	187,490	183,218
75 - 79 ".....	67,200	68,495	94,130	94,261	113,550	113,948
80 - 84 ".....	34,083	37,431	45,963	50,828	55,636	61,460
85 - 89 ".....	12,621	15,015	17,539	22,060	21,688	26,670
90 years or over.....	3,336	4,809	5,197	7,726	6,295	9,870
Totals.....	5,900,536	5,606,119	7,088,873	6,920,556	8,151,879	7,928,912

11.—Age Distribution of the Population, by Province, Census 1956

Province or Territory	0-4 Years	5-9 Years	10-14 Years	15-19 Years	20-24 Years	25-34 Years
	No.	No.	No.	No.	No.	No.
Newfoundland.....	63,374	59,539	45,997	35,660	30,018	52,207
Prince Edward Island.....	12,285	12,521	9,828	8,190	6,147	11,002
Nova Scotia.....	85,972	82,033	67,566	56,326	49,069	90,428
New Brunswick.....	74,299	73,034	57,938	47,048	38,421	69,286
Quebec.....	597,728	556,621	467,237	370,246	353,191	707,106
Ontario.....	628,825	563,678	425,922	346,850	365,160	856,108
Manitoba.....	100,367	91,460	72,516	60,427	57,674	121,608
Saskatchewan.....	109,603	97,953	79,214	68,359	58,992	120,182
Alberta.....	149,697	125,820	97,318	80,486	82,842	173,475
British Columbia.....	156,759	140,588	108,518	86,433	86,397	206,736
Yukon Territory.....	1,847	1,335	795	623	1,134	2,739
Northwest Territories.....	2,807	2,471	1,745	1,653	2,065	3,545
Canada.....	1,983,563	1,807,053	1,434,594	1,162,301	1,129,110	2,414,422
	35-44 Years	45-54 Years	55-64 Years	65-69 Years	70+ Years	All Ages
	No.	No.	No.	No.	No.	No.
Newfoundland.....	47,866	32,441	23,183	8,911	15,878	415,074
Prince Edward Island.....	11,688	9,335	7,939	3,325	7,025	99,285
Nova Scotia.....	89,889	65,755	48,772	19,926	38,981	694,717
New Brunswick.....	66,500	49,607	37,291	15,348	27,844	554,616
Quebec.....	587,601	436,476	288,149	103,607	160,416	4,628,378
Ontario.....	751,882	581,506	430,627	167,371	287,004	5,404,933
Manitoba.....	115,396	87,941	66,094	29,240	47,327	850,040
Saskatchewan.....	114,626	87,351	65,739	30,108	48,538	880,665
Alberta.....	148,334	108,779	75,038	31,796	49,531	1,123,116
British Columbia.....	202,007	150,188	110,059	54,078	96,701	1,398,464
Yukon Territory.....	1,747	1,004	476	191	299	12,190
Northwest Territories.....	2,243	1,482	804	212	281	19,313
Canada.....	2,139,784	1,611,865	1,154,161	464,113	779,825	16,080,791

Subsection 5.—Marital Status

Next to the sex and age distribution of a population, that of marital status is probably most fundamental from a vital, economic and social viewpoint. The number of married females between 15 and 45 years of age is a most significant factor in the fertility of a population; if the proportion of females in this group is small, the expected proportion of births will also be small. In 1956, 64.3 p.c. of all married females were in the age group 15-44 years, as compared with 64.0 p.c. in 1951, 61.2 p.c. in 1941, and 63.5 p.c. in 1931. This trend indicates a movement towards conditions more favourable to a higher birth rate than those that existed during the period of world-wide depression.

The high birth rate of the period 1951-56, which has had such a considerable effect on the increase in the total population and on its age composition, has also been an influence on the increase of 15.7 p.c. in the single population. Most of this gain was in the population under 15 years of age. During the same period, the married population increased by 14.1 p.c., widowed by 10.5 p.c., and divorced by 14.9 p.c. Other striking statistics of marital status are the excess of married males over married females (largely owing to a preponderance of male immigrants whose wives had not yet joined them), the great preponderance of widows as compared to widowers and the large and increasing number of divorced persons.

12.—Marital Status of the Population, by Age Group and Sex, Census 1956

Age Group and Sex		Single	Married	Widowed	Divorced	Total
		No.	No.	No.	No.	No.
Under 15 Years.....	M.	2,663,819	—	—	—	2,663,819
	F.	2,561,391	—	—	—	2,561,391
	T.	5,225,210	—	—	—	5,225,210
15 - 19 "	M.	580,203	6,382	39	11	586,635
	F.	527,136	48,384	99	47	575,666
	T.	1,107,339	54,766	138	58	1,162,301
20 - 24 "	M.	409,245	157,574	186	174	567,179
	F.	248,766	311,640	858	667	561,931
	T.	658,011	469,214	1,044	841	1,129,110
25 - 34 "	M.	318,489	885,563	2,092	2,227	1,208,371
	F.	179,181	1,013,756	8,119	4,995	1,206,051
	T.	497,670	1,899,319	10,211	7,222	2,414,422
35 - 44 "	M.	140,684	926,988	6,751	3,955	1,078,378
	F.	110,532	914,906	28,368	7,600	1,061,406
	T.	251,216	1,841,894	35,119	11,555	2,139,784
45 - 54 "	M.	102,230	714,831	16,533	4,068	837,662
	F.	84,348	622,030	62,389	5,436	774,203
	T.	186,578	1,336,861	78,922	9,504	1,611,865
55 - 64 "	M.	70,075	480,954	33,951	2,645	587,625
	F.	57,006	392,000	115,309	2,221	566,536
	T.	127,081	872,954	149,260	4,866	1,154,161
65 - 69 "	M.	27,491	180,721	28,427	912	237,551
	F.	21,638	126,693	77,765	466	226,562
	T.	49,129	307,414	106,192	1,378	464,113
70 years or over.....	M.	43,344	233,628	106,743	944	384,659
	F.	40,561	130,623	223,582	400	395,166
	T.	83,905	364,251	330,325	1,344	779,825
All Ages.....	M.	4,355,580	3,586,641	194,722	14,936	8,151,879
	F.	3,830,559	3,569,032	516,489	21,832	7,928,912
	T.	8,186,139	7,146,673	711,211	36,768	16,080,791

Subsection 6.—Origins and Birthplaces

Origins.—A population composed of diverse racial stocks gives rise to political, economic and social problems quite different in nature from those of one with a small admixture of foreign elements although, to the extent that certain racial stocks are more readily assimilated than others, the problems are mitigated. It is equally true that the different educational, moral, economic, religious and political backgrounds of a people of mixed origins lend variety and diversity to the national life.

The two basic stocks of the Canadian people are the French and the English; historically the French is much the older and, excepting at the time of the 1921 Census, has always exceeded in numbers any one of the basic British stocks.

For purposes of the census a person's origin or cultural group is traced through his father. For example if a person's father is German and his mother Norwegian the origin is entered as "German". Wherever possible the origin of a person is established by asking the language spoken by the person or by his paternal ancestor when he first came to Canada.

Census of 1951 data are the latest available on origins of the population.

13.—Origins of the Population, Census Years 1931, 1941 and 1951

NOTE.—Figures for census years 1871-1921 are given in the 1948-49 Year Book, p. 154.

Origin	1931	1941	1951	Origin	1931	1941	1951
	No.	No.	No.		No.	No.	No.
British	5,381,071	5,715,904	6,709,685	Other European—			
English.....	2,741,419	2,968,402	3,630,344	concluded			
Irish.....	1,230,808	1,267,702	1,439,635	Norwegian.....	93,243	100,718	119,266
Scottish.....	1,346,350	1,403,974	1,547,470	Polish.....	145,503	167,485	219,845
Other.....	62,494	75,826	92,236	Romanian.....	29,056	24,689	23,601
				Russian.....	88,148	83,708	91,279
				Swedish.....	81,306	85,396	97,780
				Ukrainian.....	225,113	305,929	395,043
				Yugoslavic.....	16,174	21,214	21,404
				Other.....	9,392	9,787	35,616
Other European...	4,753,242	5,526,964	6,872,889				
French.....	2,927,990	3,483,038	4,319,167	Asiatic	84,548	74,064	72,827
Austrian.....	48,639	37,715	32,231	Chinese.....	46,519	34,627	32,528
Belgian.....	27,585	29,711	35,148	Japanese.....	23,342	23,149	21,663
Czech and Slovak.	30,401	42,912	63,959	Other.....	14,687	16,288	18,636
Danish.....	34,118	37,439	42,671				
Finnish.....	43,885	41,683	43,745	Other Origins	157,925	189,723	354,028
German.....	473,544	464,682	619,995	Native Indian and			
Greek.....	9,444	11,692	13,966	Eskimo.....	128,890	125,521	165,607
Hungarian.....	40,582	54,598	60,460	Negro.....	19,456	22,174	18,020
Icelandic.....	19,382	21,050	23,307	Other and not			
Italian.....	98,173	112,625	152,245	stated.....	9,579	42,028 ¹	170,401
Jewish.....	156,726	170,241	181,670				
Lithuanian.....	5,876	7,789	16,224	Totals	10,376,786	11,506,655	14,009,429
Netherlands.....	148,962	212,863	264,267				

¹ Includes 35,416 half-breeds.

Countries of Birth.—The decennial census collects information on the country of birth of immigrant arrivals in Canada and province of birth of Canadian born. For persons born outside of Canada the country of birth as constituted at the date of the census is recorded. Table 14 gives the total population by countries of birth for the census years 1931, 1941 and 1951.

14.—Countries of Birth of the Population, Census Years 1931, 1941 and 1951

NOTE.—Figures for census years 1871–1921 are given in the 1948–49 Year Book, p. 153.

Country of Birth	1931	1941	1951	Country of Birth	1931	1941	1951
	No.	No.	No.		No.	No.	No.
Canada	8,069,261	9,487,808	11,949,518	Europe—concluded			
United Kingdom.....	1,138,942 ¹	960,125 ¹	912,482	Union of Soviet Socialist Republics ² ..	133,869	124,402	188,292
Other Commonwealth.....	45,888	43,644	20,567	Scandinavian countries ³	90,042	72,473	64,522
Europe.....	714,462	653,705	801,618	Central European countries ⁴	317,350	309,360	305,192
Belgium.....	17,033	14,773	17,251	Other Europe.....	11,002	9,810	38,143
Finland.....	30,354	24,387	22,035	Asia.....	60,608	44,443	37,145
France.....	16,756	13,795	15,650	United States.....	344,574	312,473	282,010
Germany.....	39,163	28,479	42,693	Other countries.....	3,051	3,512	6,089
Greece.....	5,579	5,871	8,594				
Italy.....	42,578	40,432	57,789	Totals	10,376,786	11,506,655⁵	14,009,429
Netherlands.....	10,736	9,923	41,457				

¹ Includes the 26 counties of Ireland in 1931 and 1941.
Denmark, Iceland, Norway and Sweden.

² Includes Lithuania and Ukraine.

³ Includes

⁴ Includes Austria, Czechoslovakia, Hungary, Yugoslavia, Poland and Romania.

⁵ Includes "birthplace not stated".

Subsection 7.—Religious Denominations

At each decennial census the numbers of persons attached to any religious denomination, as reported by the persons enumerated, have been recorded. The distribution of the principal denominations for the census years 1931, 1941 and 1951 is given in Table 15.

15.—Principal Religious Denominations of the Population, Census Years 1931, 1941 and 1951

NOTE.—More detailed figures for census years 1871–1921 are given in the 1948–49 Year Book, p. 155.

Religious Denomination	1931	1941	1951		Religious Denomination	1931	1941	1951	
	No.	No.	No.	p.c.		No.	No.	No.	p.c.
Adventist.....	16,058	18,485	21,398	0.2	Pentecostal.....	26,349	57,742	95,131	0.7
Anglican.....	1,639,075	1,754,368	2,060,720	14.7	Presbyterian....	872,428	830,597	781,747	5.6
Baptist.....	443,944	484,465	519,585	3.7	Roman Catholic..	4,102,960	4,806,431	6,069,496	43.3
Christian Science	18,499	20,261	20,795	0.1	Salvation Army..	30,773	33,609	70,275	0.5
Evangelical					Ukrainian				
Church.....	22,239	37,064	50,900	0.4	(Greek) Catho-	186,879 ²	185,948 ²	190,831	1.4
Greek Orthodox..	102,529	139,845	172,271	1.2	United Church...	2,021,065	2,208,658	2,867,271	20.5
Jewish.....	155,766	168,585	204,836	1.5	Other.....	232,424	221,879	280,424	2.0
Lutheran.....	394,920	401,836	444,923	3.2					
Mennonite.....	88,837	111,554	125,938	0.9	Totals	10,376,786	11,506,655	14,009,429	100.0
Mormon.....	22,041	25,328	32,888	0.2					

¹ Includes "Hutterite".

² Includes "Other Greek Catholic".

Subsection 8.—Languages and Mother Tongues

Tables showing the numbers of persons speaking one, both or neither of the official languages of Canada and showing mother tongues of the population at the date of the 1951 Census are given in the 1957–58 Year Book at pp. 138–139. Further details may be found in Vol. I of the *Ninth Census of Canada 1951*.

Subsection 9.—Households, Families and Dwellings*

Households and Families.—Only the principal statistics on households and families recorded at the Census of 1956 are given here—additional summary figures are given in the 1957-58 Year Book at pp. 141-143 and detailed information may be found in 1956 Census Reports 1-13 to 1-20 inclusive.

The total number and average size of households and families for census years 1951 and 1956 are shown in Table 16 for provinces and for cities of 30,000 population or over. These figures show a consistent trend towards larger families in 1956 as compared with 1951, although the average size of household remained relatively stable over the five-year period.

* Census definitions are briefly as follows: *DWELLING*.—A *Dwelling* is defined as a structurally separate set of living premises with private entrance from outside the building, or from a common hallway or stairway inside. A *Single Detached Dwelling* is a house containing one dwelling unit and completely separated from any other building. *Apartments and Flats* include dwelling units in apartment blocks, in duplexes or triplexes, and in structurally converted houses, and living quarters in business premises, schools, etc. In determining the number of *Rooms* in a dwelling, only those suitable for living purposes are included. A *Crowded Dwelling* is defined as one in which the number of persons exceeds the number of rooms occupied.

HOUSEHOLD.—A *Household* is a person or group of persons occupying one dwelling unit, the number of households thus equalling the number of occupied dwellings.

FAMILY.—A *Family* is a husband and wife (with or without children) or a parent with an unmarried child (or children) living together in the same dwelling. Unmarried sons and daughters under 25 years of age and living with their parents are classed as children as well as wards and guardianship children under 21 years of age.

16.—Households and Families, and Persons per Household and Family, by Province and City of 30,000 Population or Over, Census Years 1951 and 1956

Province and City	Households		Families		Persons per Household		Persons per Family	
	1951 ¹	1956 ¹	1951	1956	1951 ¹	1956 ¹	1951	1956
	No.	No.	No.	No.	No.	No.	No.	No.
Newfoundland	70,980	78,808	74,858	82,128	5.0	5.1	4.4	4.6
St. John's.....	10,572	11,219	11,427	12,163	4.8	4.9	4.0	4.1
Prince Edward Island ...	22,454	22,682	21,381	21,153	4.3	4.2	4.0	4.1
Nova Scotia	149,555	162,854	145,127	154,243	4.2	4.1	3.9	3.9
Halifax.....	18,709	21,194	19,016	20,509	4.1	4.0	3.5	3.5
Sydney.....	6,324	6,914	7,080	7,092	4.8	4.5	3.9	4.0
New Brunswick	114,007	120,475	111,639	116,623	4.4	4.5	4.1	4.2
Moncton.....	6,595	8,647	6,424	8,286	4.0	4.0	3.5	3.7
Saint John.....	13,178	13,336	12,224	12,230	3.8	3.8	3.5	3.6
Quebec	858,784	1,001,264	856,041	970,414	4.6	4.4	4.2	4.2
Hull.....	9,324	11,167	9,916	11,240	4.6	4.3	4.0	4.0
Jacques Cartier.....	4,779	6,927	4,908	7,011	4.7	4.8	4.3	4.5
Lachine.....	6,385	8,557	6,751	8,588	4.1	3.9	3.6	3.6
Montreal.....	247,482	285,501	246,389	267,934	4.0	3.7	3.5	3.5
Quebec.....	34,970	38,556	33,830	35,996	4.4	4.2	4.1	4.0
St. Laurent.....	4,976	9,304	5,039	9,148	3.9	4.0	3.6	3.8
Sherbrooke.....	11,543	13,646	11,034	12,595	4.1	4.1	3.9	4.1
Trois Rivières.....	9,528	10,912	9,466	10,464	4.6	4.4	4.3	4.2
Verdun.....	19,806	21,009	20,123	20,293	3.8	3.6	3.4	3.4
Ontario	1,181,126	1,392,491	1,162,772	1,342,672	3.8	3.8	3.4	3.5
Brantford.....	10,373	14,642	9,774	13,494	3.5	3.5	3.2	3.4
Fort William.....	9,297	10,118	9,015	9,926	3.7	3.7	3.4	3.5
Guelph.....	7,104	9,284	7,084	8,597	3.8	3.5	3.3	3.4
Hamilton.....	55,337	63,815	55,764	62,329	3.7	3.7	3.2	3.3
Kingston.....	8,708	12,499	8,485	11,352	3.7	3.6	3.2	3.4
Kitchener.....	11,571	16,074	11,832	15,539	3.8	3.6	3.2	3.4
London.....	26,384	28,962	24,679	25,277	3.5	3.3	3.1	3.3
Oshawa.....	11,225	13,530	11,170	13,355	3.7	3.7	3.2	3.4
Ottawa.....	48,968	56,059	48,811	52,760	3.9	3.8	3.4	3.5
Peterborough.....	10,018	11,632	9,807	10,671	3.8	3.6	3.4	3.5
Port Arthur.....	8,426	9,979	8,082	9,442	3.6	3.6	3.4	3.5
St. Catharines.....	10,383	10,971	10,051	10,257	3.6	3.5	3.3	3.3
Sarnia.....	9,380	11,917	8,953	10,980	3.7	3.6	3.4	3.6
Sault Ste. Marie.....	7,856	9,169	8,124	9,127	4.1	3.9	3.5	3.6
Sudbury.....	9,452	11,526	9,978	11,092	4.4	3.9	3.7	3.6
Toronto.....	157,174	157,137	177,984	169,971	4.2	4.1	3.0	3.1
Windsor.....	31,813	33,280	30,855	30,786	3.7	3.6	3.4	3.4

¹ Exclusive of institutions, hotels, camps, etc.

16.—Households and Families, and Persons per Household and Family, by Province and City of 30,000 Population or Over, Census Years 1951 and 1956—concluded

Province and City	Households		Families		Persons per Household		Persons per Family	
	1951 ¹	1956 ¹	1951	1956	1951 ¹	1956 ¹	1951	1956
	No.	No.	No.	No.	No.	No.	No.	No.
Manitoba	202,398	217,964	191,268	204,414	3.7	3.7	3.6	3.6
Winnipeg.....	64,629	67,798	63,117	66,019	3.6	3.6	3.1	3.2
Saskatchewan	221,456	233,664	196,188	205,135	3.7	3.6	3.7	3.8
Regina.....	19,161	23,883	18,229	22,313	3.6	3.6	3.3	3.4
Saskatoon.....	14,982	20,315	13,639	18,065	3.4	3.4	3.3	3.4
Alberta	250,747	294,047	223,326	262,922	3.6	3.7	3.7	3.7
Calgary.....	37,711	52,785	34,053	46,176	3.3	3.3	3.2	3.3
Edmonton.....	42,922	57,748	40,278	55,525	3.6	3.7	3.3	3.5
British Columbia	337,777	392,403	299,845	346,003	3.3	3.4	3.3	3.4
New Westminster.....	7,984	8,874	7,278	7,711	3.3	3.2	3.2	3.3
Vancouver.....	101,330	108,953	92,798	94,467	3.3	3.2	3.0	3.1
Victoria.....	15,788	17,309	13,632	14,041	3.1	3.0	3.0	3.0
Yukon and Northwest Territories	..	6,994	4,939	5,893	..	3.8	3.9	4.1
Canada	3,409,284 ²	3,923,646	3,287,384	3,711,500	4.0 ²	3.9	3.7	3.8

¹ Exclusive of institutions, hotels, camps, etc.

² Exclusive of the Yukon and Northwest Territories.

In Table 17 households are classified according to the number of persons, the number of family groups, and the number of lodgers they contain. This information is shown for Canada as a whole with comparable figures from the 1951 and 1956 Censuses. It will be seen that the two-person household was the most common household size in both years, and in 1956 two-person households represented nearly 22 p.c. of all households. The percentage of multiple-family households and households with lodgers showed a decrease between 1951 and 1956. This is consistent with the fact previously stated that, although families showed a noticeable increase in size between 1951 and 1956, there was no corresponding increase in size of household. (For later sample-survey figures on families, see p. 165.)

17.—Household Composition, Census Years 1951 and 1956

Item	1951 ¹		1956	
	No.	p.c.	No.	p.c.
Persons in Households—				
1.....	252,435	7.4	308,613	7.9
2.....	711,110	20.9	859,109	21.9
3.....	688,025	20.2	739,390	18.8
4.....	645,515	18.9	742,363	18.9
5.....	439,875	12.9	513,821	13.1
6-9.....	581,675	17.1	664,366	16.9
10+.....	90,660	2.7	95,984	2.4
Families in Households—				
0.....	385,010	11.3	459,420	11.7
1.....	2,794,860	82.0	3,259,499	83.1
2+.....	229,425	6.7	204,727	5.2
Lodgers in Households—				
0.....	3,081,085	90.4	3,610,238	92.0
1.....	171,310	5.0	162,067	4.1
2.....	73,480	2.2	68,950	1.8
3+.....	83,420	2.4	82,391	2.1

¹ Exclusive of the Yukon and Northwest Territories.

Dwellings.—Since a census of housing was not taken in 1956, the latest census information on dwellings is for the year 1951. Table 18 indicates the changes that took place in certain dwelling characteristics during the decade 1941 to 1951.

18.—Dwelling Characteristics, Census Years 1941 and 1951

(Excludes Newfoundland and the Territories)

Characteristics	1941		1951		Increase 1941-51	
	No.	P.C. of Total	No.	P.C. of Total	No.	P.C.
Occupied Dwellings¹	2,575,744	100.0	3,338,315	100.0	762,571	29.6
Single detached.....	1,853,454	72.0	2,216,275	66.4	362,821	19.6
Apartments and flats.....	533,034	20.7	881,245	26.4	348,211	65.3
Single attached.....	189,256	7.3	240,795 ²	7.2	51,539	27.2
Owned.....	1,459,357	56.7	2,175,415	65.2	716,058	49.1
Rented.....	1,116,387	43.3	1,162,900	34.8	46,513	4.2
Rooms per dwelling.....	5.5	---	5.3	---	---	---
Persons per dwelling.....	4.3	---	4.0	---	---	---
In need of major repair.....	695,736	27.0	450,625	13.5	-245,111	-35.2
Crowded dwellings ³	148,418	18.4	175,995	16.0	27,577	18.6
Dwellings with—						
Electric lighting.....	1,780,667	69.1	2,929,450	87.8	1,148,783	64.5
Furnace heating.....	997,588	38.7	1,632,275	48.9	634,687	63.6
Running water.....	1,558,586	60.5	2,505,080	75.0	946,494	60.6
Flush toilet ⁴	1,342,198	52.1	2,170,815	65.0	828,617	61.7
Bath or shower ⁴	1,169,760	45.4	1,926,455	57.7	756,695	64.7
Electric or gas range.....	1,019,421	39.6	1,696,130	50.8	676,709	66.4
Electric or gas refrigeration.....	538,535	20.9	1,589,625	47.6	1,051,090	195.2
Electric vacuum cleaner.....	624,178	24.2	1,409,090	42.2	784,912	125.8
Telephone.....	1,037,298	40.3	2,013,640	60.3	976,342	94.1
Radio.....	2,002,889	77.8	3,086,695	92.5	1,083,806	54.1
Passenger automobile.....	944,591	36.7	1,435,925	43.0	491,334	52.0
Owner-occupied non-farm dwellings report- ing a mortgage	275,623	31.2	515,035	32.3	239,412	86.9
Monthly Rent of Tenant-Occupied Non- farm Dwellings—						
Under \$30 ⁵	738,294	75.1	501,540	45.5	-236,754	-32.1
\$30-\$59.....	221,189	22.5	437,815	39.8	216,626	97.9
\$60 or over.....	24,034	2.4	162,265	14.7	138,231	575.1

¹ Exclusive of hotels, institutions, camps, etc.

² Includes auto-trailers, houseboats, tents and other miscellaneous types.

³ For cities of 30,000 or over only.

⁴ For exclusive use of household.

⁵ Includes

'rent-free' dwellings.

Statistics relating to household conveniences in 1951 generally reflect an increasing level of prosperity in both urban and rural areas within the 1941-51 period. In 1951 over 60 p.c. more homes had indoor plumbing, electricity and furnace heating than in 1941. There was also a substantial increase in the number of homes equipped with such conveniences as mechanical refrigerators, electric vacuum cleaners, telephones, radios and passenger automobiles. While much of this advance may be attributed to general prosperity, part of the trend is accounted for by increasing urbanization of the Canadian population and the availability of modern conveniences to rural areas. (For later sample-survey figures on household conveniences, see p. 165.)

Subsection 10.—Blind and Deaf Population

A table showing the number of totally blind and totally deaf persons in Canada at the time of the 1951 Census is given in the 1957-58 Year Book at p. 145. Further details on the blind and deaf population may be found in Vol. II of the *Ninth Census of Canada 1951*.

Section 2.—Intercensal Surveys

Subsection 1.—Population Estimates and Movement

Intercensal estimates of the population have many uses. They are necessary to the calculation of costs of certain economic and social legislation. Business, educational and welfare organizations utilize population estimates in planning future development. They constitute a base for vital statistics rates, per capita figures of production and trade, and other analyses. They have proved useful for estimates of labour force and other population characteristics of data collected in sample surveys.

Estimates are constructed for the total population of Canada and for each province and become available about the date to which they apply—June 1 of each year. The estimates of population begin with the preceding census counts, to which are added the births of the intervening census year or years and from which the deaths are subtracted; immigrants are added and emigrants subtracted. On emigration no precise information is available. The DBS receives yearly from the United States the number of persons who gave Canada as country of last permanent residence before entering the United States as immigrants, and from the United Kingdom's Board of Trade the number of emigrants from Canada taking up permanent residence in the United Kingdom. Such data, however, are not available from other countries, though the proportion of total emigrants to all other countries is small. Family allowance statistics showing the number of migrant families by provinces are used in estimating interprovincial shifts in population.

Since estimates for successive years are independently calculated from the latest census, the best estimate of the balance of population change is not obtained by subtracting the figure for one year from that for the next year. The following statement shows the data used in preparing the annual estimates for 1956 and 1957. The next succeeding census serves as a basis for revision of the annual estimates.

Item	Period	
	1956-57	1956-58
Population, Census 1956.....	16,081,000	16,081,000
Births ¹	451,000	932,000
Deaths ¹	132,000	270,000
Immigration.....	257,000	449,000
Emigration (estimated).....	68,000	144,000
Population at end of period.....	16,589,000	17,048,000

¹ Final figures used where available and registrations substituted for remaining period.

19.—Estimates of Population, by Province, Intercensal Years 1941-58

NOTE.—At every census the previous post-censal estimates, made at June 1 each year, are adjusted to the newly recorded population figures. Figures for 1941, 1951 and 1956 and for the Prairie Provinces for 1946 are census figures. Figures for 1867-1904 will be found in the 1936 Year Book, p. 141; for 1905-30 in the 1946 edition, p. 127; and for 1931-40 in the 1952-53 edition, p. 143.

Year	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon	N.W.T.	Canada
	'000	'000	'000	'000	'000	'000	'000	'000	'000	'000	'000	'000	'000
1941.....	...	95	578	457	3,332	3,788	730	896	796	818	5	12	11,507
1942.....	...	90	591	464	3,390	3,884	724	848	776	870	5	12	11,654
1943.....	...	91	606	463	3,457	3,915	723	838	785	900	5	12	11,795
1944.....	...	91	611	461	3,500	3,963	727	836	808	932	5	12	11,946
1945.....	...	92	619	467	3,560	4,000	727	833	808	949	5	12	12,072
1946.....	...	94	608	478	3,629	4,093	727	833	803	1,003	8	16	12,292
1947.....	...	94	615	488	3,710	4,176	739	836	825	1,044	8	16	12,551
1948.....	...	98	625	498	3,788	4,275	746	838	854	1,082	8	16	12,823
1949.....	345	94	629	508	3,882	4,378	757	832	885	1,113	8	16	13,447
1950.....	351	96	638	512	3,969	4,471	768	833	913	1,137	8	16	13,712

19.—Estimates of Population, by Province, Intercensal Years 1941-58—concluded

Year	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon	N.W.T.	Canada
	'000	'000	'000	'000	'000	'000	'000	'000	'000	'000	'000	'000	'000
1951.....	361	98	643	516	4,056	4,598	776	832	939	1,165	9	16	14,009
1952.....	374	100	653	526	4,174	4,788	798	843	973	1,205	9	16	14,459
1953.....	383	101	663	533	4,269	4,941	809	861	1,012	1,248	9	16	14,845
1954.....	395	101	673	540	4,388	5,115	823	873	1,057	1,295	10	17	15,287
1955.....	406	100	683	547	4,517	5,263	839	878	1,091	1,342	11	18	15,698
1956.....	415	99	695	555	4,628	5,405	850	881	1,123	1,399	12	19	16,081
1957.....	426	99	702	565	4,758	5,622	860	879	1,160	1,487	12	19	16,589
1958.....	438	100	710	577	4,884	5,803	870	888	1,201	1,544	13	20	17,048

Table 20 shows the natural increase and the total population increase according to the census for Canada and the provinces in the periods 1931-41, 1941-51 and 1951-56. The difference between the natural increase and the total increase in population during a period represents the difference between inward and outward movements, i.e., net migration. The net migration data shown for provinces indicate the net movement of population arising partly from interchange of population between provinces and partly from persons entering and leaving the country.

The earlier movement of population on the North American Continent from east to west has not been apparent in Canadian statistics in recent years. The most spectacular changes are shown in the Prairie Provinces and in British Columbia. While the three Prairie Provinces lost by migration about 250,000 persons between 1931 and 1941 and somewhat more from 1941 to 1951, they gained in the period 1951-56. Manitoba lost over 100,000 population between 1931 and 1951 but only 152 persons between 1951 and 1956. Saskatchewan has been a consistent loser since 1931, losing on the average over 15,000 a year during the 1930's, almost 20,000 a year during the 1940's and just under 8,000 a year during the 1950's. Alberta lost over 40,000 persons in the decade 1931-41 but only about 7,000 in the next decade and gained close to 65,000 in the five years 1951-56. British Columbia gained through migration at the rate of about 8,000 persons a year during the 1930's, about 23,000 a year during the 1940's and about 27,000 a year in the first half of the 1950's. On an absolute basis Ontario received more people through migration than did British Columbia but, in relation to its larger population, the gain was only about one-third as important. Most of Ontario's growth through migration was from immigration rather than interprovincial movement of population. Quebec had a slight loss between 1931 and 1951 and a considerable gain in the next five years. Nova Scotia gained population through migration during the 1930's but has been losing ever since; the Maritimes as a whole lost 138,000 persons over the quarter-century.

20.—Numerical Changes in the Population of the Provinces through Migration 1931-41, 1941-51 and 1951-56

Province	Natural Increase			Population Increase according to Census			Net Migration		
	1931-41	1941-51	1951-56	1931-41	1941-51	1951-56	1931-41	1941-51	1951-56
Nfld.....	...	...	52,892	...	...	53,658	...	...	+766
P.E.I.....	9,681	15,802	8,920	7,009	3,382	856	-2,672	-12,420	-8,064
N.S.....	57,268	103,512	63,156	65,116	64,622	52,133	+7,848	-38,890	-11,023
N.B.....	59,359	99,904	59,812	49,182	58,296	3,8919	-10,177	-41,608	-20,893
Que.....	459,211	736,055	474,516	457,220	723,799	572,697	-1,991	-12,259	+98,181
Ont.....	278,488	505,034	431,913	355,972	809,887	807,391	+77,484	+304,853	+375,478
Man.....	78,083	107,510	73,651	29,605	46,797	73,499	-48,478	-60,713	-152
Sask.....	131,752	135,106	85,978	-25,793	-64,264	48,937	-157,545	-199,379	-27,041
Alta.....	106,405	150,303	119,307	64,564	148,332	183,615	-41,841	-6,971	+64,308
B.C.....	41,100	116,527	98,006	123,598	347,349	233,254	+82,498	+230,822	+135,248
Canada ¹	1,221,787	1,972,391	1,471,766	1,129,869	2,141,358	2,071,362	-91,918	+168,961	+599,596

¹ Includes the Yukon and Northwest Territories.

Subsection 2.—Age and Sex Estimates

Table 21 gives estimates of the population of Canada and the provinces by age and sex as of June 1, 1958. The method followed in preparing these estimates was much the same as that used in calculating the population estimates, described on p. 162. These estimates are subject to revision following the 1961 Census.

21.—Estimated Population classified by Sex and Age Group and by Province, 1958

Province or Territory	0-4 Years		5-9 Years		10-14 Years		15-19 Years	
	Male	Female	Male	Female	Male	Female	Male	Female
	'000	'000	'000	'000	'000	'000	'000	'000
Newfoundland.....	35.0	34.4	30.6	30.3	25.5	25.1	19.1	19.3
Prince Edward Island.....	6.4	6.1	6.3	6.0	5.4	5.2	4.2	4.2
Nova Scotia.....	46.2	43.8	42.2	40.5	36.8	35.3	29.9	28.5
New Brunswick.....	40.0	38.2	37.5	36.2	32.4	31.0	25.0	25.0
Quebec.....	327.3	313.6	294.8	285.6	257.2	247.4	202.6	200.2
Ontario.....	354.3	339.2	312.4	300.4	251.3	239.6	197.2	188.8
Manitoba.....	53.4	51.2	43.2	46.5	40.7	38.4	32.5	31.5
Saskatchewan.....	58.0	55.0	51.4	49.2	43.4	41.4	34.9	33.9
Alberta.....	84.2	79.8	70.7	67.1	56.3	53.5	44.3	42.7
British Columbia.....	90.1	87.1	80.0	77.0	65.1	62.1	51.5	48.4
Yukon Territory.....	1.1	1.1	0.8	0.8	0.5	0.5	0.4	0.3
Northwest Territories.....	1.6	1.6	1.3	1.3	1.0	0.9	0.9	0.8
Canada.....	1,097.6	1,051.1	976.2	940.9	815.6	780.4	642.5	623.6
	20-24 Years		25-34 Years		35-44 Years		45-54 Years	
	Male	Female	Male	Female	Male	Female	Male	Female
	'000	'000	'000	'000	'000	'000	'000	'000
Newfoundland.....	16.4	14.8	29.6	24.7	26.6	22.9	19.3	16.0
Prince Edward Island.....	3.1	3.2	5.3	5.3	5.6	5.6	5.1	4.6
Nova Scotia.....	25.7	23.7	45.4	44.2	44.4	44.5	36.7	32.7
New Brunswick.....	19.2	19.9	34.5	35.3	33.9	33.6	27.3	25.3
Quebec.....	181.6	184.7	361.3	367.0	306.6	312.4	233.9	228.8
Ontario.....	198.0	193.8	450.7	440.4	404.4	398.7	317.6	300.8
Manitoba.....	28.5	28.8	59.0	59.0	57.0	58.0	47.0	44.7
Saskatchewan.....	28.6	28.1	58.7	56.6	57.1	55.9	47.9	42.4
Alberta.....	43.5	41.6	92.9	87.3	80.2	76.9	62.3	54.0
British Columbia.....	52.9	46.7	117.7	107.4	108.3	108.4	87.7	78.9
Yukon Territory.....	0.5	0.4	1.6	1.1	1.1	0.8	0.7	0.4
Northwest Territories.....	1.1	0.7	2.3	1.3	1.5	0.9	1.0	0.5
Canada.....	600.1	586.4	1,259.0	1,229.6	1,126.7	1,118.6	886.5	829.1
	55-64 Years		65-69 Years		70 + Years		All Ages	
	Male	Female	Male	Female	Male	Female	Male	Female
	'000	'000	'000	'000	'000	'000	'000	'000
Newfoundland.....	12.1	11.5	4.5	4.3	8.0	8.0	226.7	211.3
Prince Edward Island.....	4.0	3.7	1.7	1.7	3.5	3.8	50.6	49.4
Nova Scotia.....	24.9	24.4	10.0	10.1	19.2	20.9	361.4	348.6
New Brunswick.....	19.2	18.8	7.8	7.6	14.3	15.0	291.1	285.9
Quebec.....	151.2	152.3	52.1	53.8	80.3	89.3	2,448.9	2,435.1
Ontario.....	221.9	225.2	80.8	87.7	135.6	164.2	2,924.2	2,878.8
Manitoba.....	34.2	32.3	14.7	13.3	26.0	24.1	442.2	427.8
Saskatchewan.....	35.4	30.3	16.0	12.4	29.1	22.3	460.5	427.5
Alberta.....	43.4	35.6	17.5	13.7	29.6	23.9	624.9	576.1
British Columbia.....	60.2	56.8	27.6	25.4	55.3	49.4	796.4	747.6
Yukon Territory.....	0.3	0.2	0.1	0.1	0.2	—	7.3	5.7
Northwest Territories.....	0.5	0.3	0.1	0.1	0.2	0.1	11.5	8.5
Canada.....	607.3	591.4	232.9	230.2	401.3	421.0	8,645.7	8,402.3

Subsection 3.—Dwelling and Family Estimates

Annually since 1953 a sample survey on dwellings and household facilities and equipment has been conducted in conjunction with the monthly labour force survey. More than 35,000 households chosen by random sampling methods in about 120 different areas are interviewed. Results of the 1958 survey are presented in Table 22.

22.—Dwelling Characteristics, Sample Survey, May 1958

Characteristics	No.	P.C. of Total	Characteristics	No.	P.C. of Total
Occupied Dwellings ¹	4,173,000	100.0	Dwellings with—concluded		
Single detached.....	2,830,000	67.8	Furnace heating.....	2,544,000	61.0
Apartments, flats.....	1,049,000	25.1	Running water.....	3,551,000	85.1
Single attached.....	294,000	7.1	Flush toilet ²	3,223,000	77.2
Owned.....	2,801,000	67.1	Bath or shower ²	2,976,000	71.3
Rented.....	1,372,000	32.9	Electric or gas range.....	2,981,000	71.4
Rooms per dwelling.....	5.3	---	Electric or gas refrigeration.....	3,599,000	86.2
Persons per dwelling.....	3.9	---	Electric vacuum cleaner.....	2,543,000	60.9
Dwellings with—			Telephone.....	3,284,000	78.7
Electric lighting.....	4,015,000	96.2	Radio.....	4,003,000	95.9
			Passenger automobile.....	2,644,000	63.4

¹ Excludes households in the Yukon and Northwest Territories; households of Indians on reserves; such collective-type households as those living in hotels, large lodging houses, institutions, clubs and camps. ² For exclusive use of household.

Estimates of the number of families in Canada and the provinces are also prepared annually. The estimates for 1957 were based on the estimated population in 1957 and on family data secured from the May 1957 sample survey of the labour force.

The estimated number of families in Canada in June 1957 was 3,849,000, an increase of 143,000 or 3.9 p.c. since the 1956 Census. The average number of persons per family showed no change from the 3.8 persons reported by the 1956 Census and only a slight increase from the 3.7 persons reported by the 1951 Census. The number of children in families increased 293,000 in the year between June 1956 and June 1957 and showed an average annual increase of 218,000 children since June 1951. It is interesting to note that since 1951 there has been an increase in the percentage of families having 3 children or more at home and a decrease in the percentage of families having fewer than 3 children or no children.

23.—Estimates of Family Characteristics, 1957 compared with Censuses of 1951 and 1956

(Excludes the Yukon and Northwest Territories)

Characteristic	Census 1951	Census 1956	Estimate 1957	Increase 1951-56	Increase 1956-57
Population.....No.	13,984,329	16,049,288	16,558,000	2,064,959	508,712
Families....."	3,282,445	3,705,607	3,849,000	423,162	143,393
Persons per family....."	3.7	3.8	3.8	0.1	...
Children in families....."	5,534,372	6,549,733	6,843,000	1,015,361	293,267
Families with—					
No children at home.....p.c.	32.3	31.3	30.8	...	...
1-2 children....."	43.3	..	41.8	...	...
3-4 children....."	16.7	..	19.2	...	...
5 or more children....."	7.7	..	8.2	...	...

Section 3.—The Indians and Eskimos of Canada

The Indians.*—There are more than 170,000 native Indians in Canada today and it is noteworthy that their rate of increase is higher than that of any other segment of the population. They live on more than 2,200 tracts of land which have been reserved for their use and benefit. These reserves are located in every province with the exception of Newfoundland where the provincial government has a responsibility for Indians on the Island and on the Coast of Labrador. Elsewhere in Canada, the Indian Affairs Branch of the Federal Department of Citizenship and Immigration is responsible for the administration of the Indian Act and matters affecting the welfare of Indians.

24.—Indian Land in Reserves and Number of Bands, by Province, Year Ended Mar. 31, 1958

Province or Territory	Reserves		Bands	Province or Territory	Reserves		Bands
	No.	Area acres			No.	Area acres	
Prince Edward Island....	4	2,741	1	Alberta.....	90	1,537,217	41
Nova Scotia.....	40	19,492	6	British Columbia.....	1,627	820,397	209
New Brunswick.....	23	37,597	15	Northwest Territories...	10	1,924	15
Quebec.....	23	178,566	42	Yukon Territory.....	15	3,535	15
Ontario.....	164	1,559,184	111				
Manitoba.....	107	524,490	51				
Saskatchewan.....	120	1,205,795	66	Canada.....	2,223	5,890,938	572

Administration.—The primary function of the Indian Affairs Branch, under the Indian Act, is to administer the affairs of Canadian Indians in a manner that will enable them to become increasingly self-supporting and independent members of the community. Among the important matters that come within the purview of Canadian Indian administration are: the management of Indian reserves and surrendered lands; tribal or band funds; education; welfare projects; relief; family allowances; rehabilitation of Indian veterans on reserves; descent of property; Indian treaty obligations; and enfranchisement of Indians.

The present Indian Act, proclaimed Sept. 4, 1951, was drawn up after a lengthy inquiry of a Special Committee of the Senate and the House of Commons, and after taking into account the views of the Indians themselves expressed at a conference held for that purpose. The overriding consideration that shaped the present Act was the desire to promote the integration of Indians into the general social and economic life of the country.

As a means of achieving this, the Act makes provision for the election of Band councils whose authority extends over a number of areas of immediate concern to Indians resident on the reserve, including such matters as health, regulation of traffic, control of livestock, and management of fish, game and fur. Bands that have achieved an advanced stage of development may enact by-laws having to do with the raising, appropriation and expenditure of money. While most Band councils are elected for a two-year term as provided in the Indian Act, some continue to adhere to appointment by tribal custom. All Bands, however, are given the opportunity to decide which system they will follow.

The Indian Affairs Branch takes a census of the Indian population under its jurisdiction at five-year intervals. The figures for the 1954 Census are given in Tables 25 and 26.

* Prepared in the Indian Affairs Branch of the Department of Citizenship and Immigration, Ottawa.

25.—Indian Population classified by Age Group and Sex, by Province, Departmental Census 1954

Province or Territory	Under 7 Years		7 Years and Under 16		16 Years and Under 21		21 Years and Under 65		65 Years or Over		Totals	
	Male	Fe-male	Male	Fe-male	Male	Fe-male	Male	Fe-male	Male	Fe-male	Male	Fe-male
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
P. E. Island.....	21	19	30	31	13	16	67	58	10	7	141	131
Nova Scotia.....	310	308	326	311	181	185	642	608	74	57	1,533	1,460
New Brunswick.....	305	294	284	285	141	136	591	486	55	52	1,376	1,263
Quebec.....	1,784	1,743	1,833	1,853	931	967	4,014	3,478	499	472	9,061	8,513
Ontario.....	3,487	3,499	3,833	4,040	2,193	2,055	8,271	7,560	1,250	1,067	19,034	18,221
Manitoba.....	2,377	2,397	2,282	2,303	973	930	4,061	3,440	465	457	10,167	9,527
Saskatchewan.....	2,180	2,142	2,204	2,221	912	962	3,799	3,536	412	382	9,507	9,243
Alberta.....	1,912	1,996	1,809	1,864	794	788	3,090	2,805	346	311	7,951	7,764
British Columbia.....	3,614	3,587	3,534	3,642	1,488	1,494	6,581	5,652	780	714	15,997	15,089
Yukon Territory.....	144	170	176	190	81	78	327	310	49	43	777	791
N.W.T.....	442	400	420	404	179	175	932	835	119	117	2,092	1,931
Totals.....	16,576	16,555	16,731	17,144	7,885	7,786	32,375	28,768	4,059	3,679	77,626	73,932

26.—Religious Denominations of the Indian Population, Departmental Census 1954

Province or Territory	Anglican	Baptist	United Church	Presby-terian	Roman Catholic	Other Christian Beliefs	Aborigi-nal Beliefs	Totals
	No.	No.	No.	No.	No.	No.	No.	No.
Prince Edward Island.....	—	—	—	—	272	—	—	272
Nova Scotia.....	—	—	—	—	3,002	—	—	3,002
New Brunswick.....	—	—	—	—	2,629	—	—	2,629
Quebec.....	3,383	—	425	—	13,482	141	143	17,574
Ontario.....	11,313	1,960	7,038	622	12,917	1,232	2,173	37,255
Manitoba.....	5,855	2	5,090	846	7,250	564	77	19,684
Saskatchewan.....	5,532	37	1,604	251	10,150	81	1,095	18,760
Alberta.....	2,037	143	1,917	—	11,225	127	266	15,715
British Columbia.....	6,025	—	6,310	—	17,959	792	—	31,086
Yukon Territory.....	1,165	84	1	—	314	—	4	1,568
Northwest Territories.....	711	—	—	—	3,310	—	—	4,023
Totals.....	36,021	2,226	22,385	1,719	82,510	2,937	3,760	151,558

Education.—The proportion of Indians who have become satisfactorily adjusted to modern conditions is of course greater among those who have taken full advantage of the Federal Government's educational program. Residential schools are available to Indian children from broken homes, orphans or those who, because of isolation or the nomadic way of life of their parents, would otherwise be unable to attend school. For children who can live at home, the Federal Government operates day schools in Indian communities. Alternatively, where conditions are favourable, arrangements are made with local educational authorities for Indian children to attend non-Indian schools. An increasing number of Indian children in the elementary grades have been admitted to schools where other children are enrolled and the majority of Indian children attending secondary school and college classes are educated in association with non-Indians. The Federal Government pays the charges for school fees and books, necessary transportation and, for some students who must live away from home, part or all of the cost of room and board.

Similar assistance is available to Indian young people as an encouragement to obtain vocational and professional training. During the 1957-58 fiscal year, 91 teachers of Indian racial origin were employed in Indian day and residential schools. Indians have qualified in medicine, dentistry, nursing, agriculture and other professions. Preference in appointment to positions in the Indian service is given to qualified Indians.

In the year ended Mar. 31, 1958, there were 477 Indian schools in operation comprising 65 residential schools and 2 hostels, 374 regular day schools, 24 seasonal schools and 12 hospital schools. The enrolment in residential schools was 11,274 and in all other Indian schools 20,079, a total of 31,353. Enrolment by province was: Prince Edward Island, 38; Nova Scotia, 657; New Brunswick, 498; Quebec, 2,372; Ontario, 7,371; Manitoba, 4,907; Saskatchewan, 4,577; Alberta, 4,725; British Columbia, 5,917; Yukon, 291.

27.—Enrolment and Average Attendance at Indian Schools, Years Ended Mar. 31, 1956-58

Year Ended Mar. 31—	Residential Schools		Day Schools		All Schools		
	Enrolment	Average Attendance	Enrolment	Average Attendance	Enrolment	Attendance	
						No.	P.C. of Enrolment
	No.	No.	No.	No.	No.		
1956.....	11,314	10,897	18,257	16,081	29,571	26,978	91.2
1957.....	11,644	11,001	19,389	16,810	31,033	27,811	89.6
1958.....	11,274	10,683	20,079	16,902	31,353	27,585	88.0

A total of 31,353 pupils attended classes in Indian schools during the 1957-58 fiscal year. Of this number, 30,207 were of Indian racial origin and 1,146 were non-Indians. In addition, there were 976 Indian children residing at Indian schools and attending classes in provincial and private schools. The number of Indians enrolled in elementary grades in provincial and private schools was 5,573 and in non-Indian secondary schools and higher education courses there were 1,757 Indians, a total of 7,330 Indian pupils in provincial and private schools. Accordingly, the enrolment of Indians at all educational institutions totalled 37,537. In the year ended Mar. 31, 1958, there were 2,443 Indians receiving secondary and higher education.

Welfare.—During 1957, 19,855 families registered as Indian were in receipt of family allowances on behalf of 57,526 children, representing payments amounting to \$4,411,852. However, these figures are not completely representative since an increasing number of Indians are registering directly for family allowances rather than through the Agency offices and statistics are not available for them; in 1955 just over 7 p.c. were making direct application, a proportion that will increase to almost 40 p.c. in 1958. Departmental records indicate that 4,517 Indians are in receipt of old age security, 1,660 old age assistance, 212 disabled persons' allowances, 271 blind persons' allowances and 262 receive provincially administered and financed mothers' allowances. Except for old age security, these allowances are paid in accordance with a means test and on a sliding scale on the basis of direct application by the Indians themselves. The Federal Government, where necessary, provides direct relief assistance to Indians in the form of food, fuel, clothing, household equipment and other miscellaneous help which the Indians are unable to supply from their own resources. During 1957 the payment of relief food costs by cheque was introduced on an experimental basis in a few agencies. This method will soon replace the present relief-in-kind procedure. With regard to the care of children, juvenile delinquents and crippled, unemployable and aged adults, arrangements are made in co-operation with the provincial authorities for private, foster home or institutional care. In the field of child protection, a formal agreement has been entered into with the Province of Ontario for the extension of the services of Children's Aid Societies to Indian reserves. Special foods are provided to assist in the control and eradication of tuberculosis. Rehabilitation of the disabled generally has been given increased emphasis in all provinces and two formal rehabilitation programs are under way in Manitoba and Alberta.

Expenditures from government appropriation for improving housing conditions were higher in 1957-58 than in the previous year and the contribution made by the Indians increased in proportion. The total estimated expenditure for new houses from appropri-

ation, Band funds, Veterans' Land Act grants and personal contributions* was \$2,386,630. The value of repairs during the year from the same sources amounted to \$439,747. Of these amounts the Indians, through Band funds, Veterans' Land Act grants and personal contributions, provided over 55 p.c. of the cost of new housing and over 59 p.c. of the expenditure on repairs.

Loans are available from a Revolving Loan Fund to assist Indians to become established in agriculture, forestry, fishing, handicrafts, guiding and trapping and to help with the purchase of tools and equipment.

During 1957 a program of urban job placement was initiated with the appointment of Placement Officers in four regions. One of their responsibilities is the permanent placement, through the facilities of the National Employment Service, of selected Indians who have acquired academic and vocational training. A program of rural employment in such fields as forestry, mining, road clearing, construction and agriculture is under development.

Fur Conservation.—During 1957 the fur conservation program undertaken in co-operation with the various provinces was continued. Approximately 152,802 beaver pelts valued at \$1,720,870 were taken in Ontario, Manitoba and Saskatchewan and in these three provinces, about 2,260,045 muskrats valued at approximately \$1,966,986 were trapped. Benefits accruing to Indians from the trapping of these fur bearers amounted to about \$2,212,713. In Quebec, ten fur preserves with a total area of approximately 294,000 sq. miles are set aside exclusively for Indian trapping under the joint management of the Indian Affairs Branch and the Quebec Department of Game and Fisheries. The seven areas in production during the 1957 season produced 20,099 beaver which brought nearly \$327,537 to the Indian trappers.

Eight full-time supervisors are employed across Canada to help the Indians derive the fullest possible benefits from hunting and trapping.

The Eskimos.*—The Eskimos, who according to the 1956 Census number approximately 11,000, form only a small part of the total population of Canada. Nevertheless as citizens of this country and an important part of the human resources of the North they are entitled to the benefits of citizenship and to assistance in meeting the problems arising from the great changes taking place in their environment. They, like the northern Indians, have a standard of living far below the national average. For many of them life has become precarious because of the drastic decline in the supply of caribou, fluctuating fur prices, the increasing penetration into the Arctic from the south, and the growth in population. The long-established patterns of life in Arctic Canada are being altered rapidly but not without serious disturbances in the native economy.

The Government of Canada, through the Northern Administration and Lands Branch of the Department of Northern Affairs and National Resources, and the Indian and Northern Health Services of the Department of National Health and Welfare, is doing everything in its power to ease the plight of those Eskimos and Indians who are faced with hardship and to raise generally the standards of health, education and economic position. Royal Canadian Mounted Police detachments throughout the North perform field duties for both Departments. In fact, the problems involved in looking after a sparse Eskimo population scattered over about 900,000 sq. miles of territory require the continuous co-operation of all northern inhabitants—teachers, missionaries, traders, doctors, nurses, administrators, radio operators and weather personnel. Administrative contact is maintained by radio and through the Central and Western Arctic and Eastern Arctic Patrols which carry representatives of the Administration and other government departments on an annual inspection tour. Officers of the Administration also make periodic visits by air.

* Prepared in the Editorial and Information Division of the Department of Northern Affairs and National Resources, Ottawa.

Family allowances are paid to most Eskimos in kind from a list designed to supplement rather than supplant the normal native diet. Eskimos also enjoy the full benefits of old age security and assistance payments and of allowances for blind persons. Missions, assisted by Federal Government grants, operate hospitals at Aklavik, Chesterfield Inlet, Fort Rae, Fort Resolution, Fort Simpson, Fort Smith and Pangnirtung, and the Department of National Health and Welfare has nursing stations at Cambridge Bay, Baker Lake, Coral Harbour, Fort Good Hope, Fort McPherson, Fort Norman, Tuktoyaktuk, Coppermine, Frobisher Bay, Lake Harbour, Cape Dorset, Hall Lake, Fort Chimo, Port Harrison and Great Whale River. Tuberculosis and other medical surveys are carried out from year to year and treatment where necessary is provided either at the hospitals within the territory or at larger institutions outside.

The Arctic Division of the Department of Northern Affairs and National Resources studies and deals with Eskimo problems. Many Eskimos have taken advantage of unprecedented opportunities for wage employment with mining companies, on the Mid-Canada and DEW radar lines, in transportation and communications, in government construction and with traders and missionaries. In some communities, the shift from the traditional trapping-hunting economy has been very sharp. While raising living standards, wage employment has added to the immediate problems of adjustment. Markets are being found in southern Canada for specialty Arctic foods and other Arctic products. Co-operatives are being introduced to give the Eskimos a greater degree of economic self-sufficiency and to provide education in the social and economic factors that govern their lives.

Increased activity in the North has required an enlarged field staff. Northern service officers, community development officers, and social workers are posted at Frobisher Bay, Cape Dorset, Fort Chimo, Great Whale River, Churchill, Baker Lake, Tuktoyaktuk, Sugluk, Aklavik, Rankin Inlet, Eskimo Point and Cambridge Bay. Some are assigned to the DEW Line to give guidance and assistance to Eskimos newly taking up wage employment; others work in remote areas where the full impact of an industrial society has yet to be felt.

At Frobisher Bay on southern Baffin Island, a Rehabilitation Centre is in operation training former Eskimo patients who, for various reasons, are no longer able to support themselves on the land. By developing special skills, they will again become productive members of society.

Projects, mainly on an experimental basis, are being carried out in order to expand and diversify the Eskimo economy. Handicrafts not only provide revenue but also a means of cultural self-expression. Reindeer herding in the Mackenzie Delta, animal husbandry at Fort Chimo, eiderdown collecting on Baffin Island and Ungava Bay, fishing at Eskimo Point and Frobisher Bay, sealskin tanning, boat-building, and the manufacture of Arctic clothing are a few of the undertakings. Studies to improve Eskimo housing are also in progress. Eskimos in overpopulated or depleted areas are encouraged and assisted to move to areas where game is more plentiful or where employment is available. A fund has been established from which loans may be made to assist Eskimos to carry out approved projects.

Since 1945, the Government has built fourteen schools primarily for Eskimo children. They are at centres spreading from the Mackenzie Delta to northern Quebec. Missions assisted by government grants also operate schools in thirteen Eskimo settlements. By the use of existing buildings the Government was able to establish three additional schools for Eskimos in 1958. Vocational training courses for Eskimos have been started in the south to help develop their mechanical aptitudes and to provide new opportunities for employment. A school and hostel went into operation at Fort Smith in January 1958 and in September the first federally owned composite high school and vocational school in the Territories was opened at Yellowknife and a new hostel opened its doors at Fort McPherson. A school and two hostels are under construction at Inuvik (Aklavik East 3) and additional hostels are planned for Fort Simpson and Frobisher Bay.

Section 4.—Statistics of World Population

World population figures given in Table 28 are from the United Nations *Population and Vital Statistics Reports* for April 1958 and, except as otherwise noted, are official mid-year estimates for 1956. The area figures are from the United Nations *Statistical Yearbook, 1957*.

Estimated Population of the World by Continents.—The statement below presents adjusted estimates of the 1956 mid-year population of the world by continental divisions. These aggregates do not coincide exactly with the sum of the figures for individual countries because they include, in addition, adjustments for over- and under-enumeration, over-estimation, categories of population not regularly included in the official figures, and approximations for those countries that have not provided official 1956 data. The estimates are as follows:—

<i>Continental Division</i>	<i>No.</i>
Africa ¹	220,000,000
North America.....	246,000,000
South America.....	129,000,000
Asia ²	1,514,000,000
Europe ³	412,000,000
Oceania.....	15,100,000
Union of Soviet Socialist Republics.....	200,200,000 ⁴
WORLD TOTAL.....	2,736,300,000
Commonwealth countries.....	664,600,000

¹ Excludes Syria, a province of the United Arab Republic.
² Excludes U.S.S.R. Includes European Turkey.

³ Excludes U.S.S.R. Includes Syria and Asiatic Turkey.
⁴ For Apr. 1, 1956.

28.—Areas and Populations of the Countries or Areas of the World 1956

NOTE.—Commonwealth countries are indicated with an asterisk(*).

Continent and Country	Area	Population	Continent and Country	Area	Population
	sq. miles	'000		sq. miles	'000
Africa			Africa—continued		
Ethiopia and Eritrea, Federation of.....	457,267	20,000	TERRITORIES AND DEPENDENCIES—continued		
*Ghana.....	91,843	4,691	France—concluded		
Liberia.....	43,000	1,250	French Somaliland.....	8,494	68
Libya.....	679,360	1,118	French West Africa ¹⁰	1,789,186	18,890
Morocco—			Madagascar.....	227,800	4,905
Former French Zone.....	150,888	8,580 ¹	Réunion.....	969	295
Former Spanish Zone ²	7,589	1,068	Southern and Antarctic Territories ¹¹	2,918	..
Tangier.....	135	175	Portugal—		
Sudan.....	967,501	10,220 ³	Angola.....	481,352	4,317
Tunisia.....	48,332	3,800	Cape Verde Islands.....	1,557	178
*Union of South Africa ⁴	472,359	13,915	Mozambique.....	297,732	6,105
United Arab Republic—			Portuguese Guinea.....	13,948	547
Egypt.....	386,101 ⁵	23,516 ⁶	São Tomé and Príncipe.....	372	56 ³
Syria.....	71,228	3,970 ⁷	Spain—		
TERRITORIES AND DEPENDENCIES			Possessions in North Africa.....	82	144
Belgium—			Possessions in West Africa.....	115,975	52 ³
Belgian Congo.....	905,565	12,811	Spanish Guinea.....	10,831	209
France—			United Kingdom—		
Algeria ⁸	919,593	9,620 ⁸	*Basutoland.....	11,716	642
Comoro Islands.....	838	177 ³	*Bechuanaland.....	275,000	327 ¹²
French Equatorial Africa ⁹	969,114	4,824	*British Somaliland.....	68,000	640
			*Gambia (Colony and Protectorate).....	4,003	285 ¹³

For footnotes, see end of table, p. 174.

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28.—Areas and Populations of the Countries or Areas of the World 1956—continued

Continent and Country	Area	Population	Continent and Country	Area	Population
	sq. miles	'000		sq. miles	'000
Africa—concluded			America, North—concluded		
TERRITORIES AND DEPENDENCIES—concluded			TERRITORIES AND DEPENDENCIES—concluded		
United Kingdom—concluded			Netherlands—		
*Kenya.....	224,960	6,150	Netherlands Antilles ¹⁷	371	185
*Mauritius, excl. dependencies	720	569	United Kingdom—		
*Nigeria, Federation of.....	339,169	31,834	*Bahama Islands.....	4,400	108
Eastern Region.....	29,484	7,640	*Bermuda.....	20	42 ¹⁸
Lagos (capital).....	87	812	*British Honduras.....	8,867	82
Northern Region.....	264,232	17,390	West Indies, Federation of the—		
Western Region.....	45,376	6,492	*Barbados.....	166	228
*Rhodesia and Nyasaland, Federation of.....	487,640	7,260	*Jamaica, excl. dependencies.....	4,411	1,564
Northern Rhodesia.....	288,130	2,180	*Cayman Islands.....	93	8
Nyasaland.....	49,177	2,600	*Turks and Caicos Is.	202	6
Southern Rhodesia.....	150,333	2,480	*Leeward Islands.....	422	130
*St. Helena and dependencies	162	514	*Trinidad and Tobago.....	1,980	743
*Seychelles and dependencies	156	40	*Windward Islands.....	826	314 ¹⁹
*Sierra Leone (Colony and Protectorate).....	27,925	2,100	United States—		
*Swaziland.....	6,704	237	Alaska.....	586,401	206 ¹⁹
*Uganda.....	93,981	5,593	Canal Zone.....	553	53 ^{2,19}
*Zanzibar and Pemba.....	1,026	280	Puerto Rico.....	3,435	2,267 ¹⁹
			Virgin Islands (U.S.) ²⁰	133	24 ^{2,19}
TRUST TERRITORIES			America, South		
*Cameroons (Br. Adm.).....	34,081	1,534	Argentina.....	1,072,748	19,486
Cameroons (Fr. Adm.).....	166,796	3,188	Bolivia.....	424,163	3,235
Ruandi-Urundi (Belg. Adm.)..	20,916	4,433	Brazil.....	3,287,204	59,846 ²¹
Somaliland (Ital. Adm.).....	178,201	1,300	Chile.....	286,397	6,944
*Tanganyika (Br. Adm.).....	362,688	8,456	Colombia.....	439,520	12,939
Togoland (Fr. Adm.).....	22,008	1,088	Ecuador.....	104,506	3,796 ²²
FORMER MANDATED TERRITORY (Union of South Africa)			Paraguay.....	157,047	1,601
*South West Africa ¹⁵	318,099	496	Peru.....	482,259	9,651
			Uruguay.....	172,172	2,650
			Venezuela.....	352,143	5,953 ²³
America, North			TERRITORIES AND DEPENDENCIES		
*Canada.....	3,851,809	17,048 ³	France—		
Costa Rica.....	19,653	988	French Guiana ²⁴	35,135	29
Cuba.....	44,218	6,410 ³	Netherlands—		
Dominican Republic.....	18,816	2,608	Surinam.....	55,212	221 ²⁵
El Salvador.....	7,722	2,268	United Kingdom—		
Guatemala.....	42,042	3,348	*British Guiana.....	83,000	499
Haiti.....	10,714	3,344	*Falkland Islands, excl. dependencies.....	4,618	2
Honduras.....	43,277	1,711	Asia		
Mexico.....	760,337	30,538	Afghanistan.....	250,966	13,000
Nicaragua.....	57,143	1,288	Arab Federation— ²⁶		
Panama.....	28,753	934	Iraq.....	171,600	4,842 ²⁷
United States of America.....	3,022,389	168,174 ¹⁶	Jordan.....	37,301	1,471 ²⁸
TERRITORIES AND DEPENDENCIES			*Bahrain.....	231	122
Denmark—			Bhutan.....	19,305	623 ³
Greenland.....	840,001	27	Burma.....	261,757	19,856
France—			Cambodia.....	67,568	4,400
Guadeloupe and dependencies.....	687	245	*Ceylon.....	25,332	8,929
Martinique.....	425	253	China, Mainland.....	3,768,736	621,225
St. Pierre and Miquelon.....	93	5 ³	China, Taiwan ²⁹	13,885	9,240 ³⁰

For footnotes, see end of table, p. 174.

28.—Areas and Populations of the Countries or Areas of the World 1956—continued

Continent and Country	Area sq. miles	Population '000	Continent and Country	Area sq. miles	Population '000
Asia—concluded			Europe		
*India (incl. Kashmir and Jammu).....	1,269,838	387,350	Albania.....	11,100	1,421
Indonesia.....	575,894	84,000	Andorra.....	175	6
Iran.....	629,345	18,945	Austria.....	32,374	6,983 ¹
Israel.....	7,992	1,813	Belgium.....	11,779	8,924 ¹
Japan ²¹	142,767	90,000 ¹	Bulgaria.....	43,048	7,593
Korea—			Czechoslovakia.....	49,366	13,229
Democratic People's Re-			Denmark.....	16,619	4,466 ¹
public of.....	47,824	9,600	Finland.....	130,120	4,291
Republic of.....	37,424	21,800	France (Metropolitan).....	212,822	43,648
*Kuwait.....	6,000	206 ²	Germany—		
Laos.....	91,506	1,450 ²	Federal Republic of Ger-		
Lebanon.....	4,015	1,450 ²²	many.....	95,724	50,786 ¹
*Malaya, Federation of.....	50,690	6,252 ²³	German Democratic Re-		
*Maldives Islands.....	115	82	public.....	41,490	16,587 ¹
Mongolian People's Republic.....	591,121	1,000 ³	East Berlin.....	156	1,128 ¹
Muscat and Oman.....	82,000	550 ³	West Berlin.....	186	2,222 ¹
Nepal.....	54,345	8,700	Greece.....	51,182	8,031
*Pakistan ²⁴	364,797	83,603	Hungary.....	35,919	9,832
Philippines.....	115,600	22,265	Iceland.....	39,768	161 ¹
*Qatar.....	8,500	40	Ireland.....	27,136	2,898
Saudi Arabia.....	617,762	6,036	Italy.....	116,304	48,279
Thailand.....	198,456	20,686	Liechtenstein.....	61	15
*Trucial Oman.....	32,278	80	Luxembourg.....	998	312 ¹
Turkey.....	289,963 ²⁵	24,797	Monaco.....	0.4	20 ³
In Asia.....	287,118	19,308 ³	Netherlands.....	12,529	10,888 ¹
In Europe.....	9,068	1,620 ³	Norway.....	125,065	3,462 ¹
Vietnam.....	127,413	26,600	Poland.....	120,359	27,819
Yemen.....	75,290	4,500 ³	Portugal ²⁸	35,599	8,837
			Romania.....	91,699	17,579
			San Marino.....	24	14 ³
			Spain ²⁹	194,396	29,203
			Sweden.....	173,623	7,316 ¹
			Switzerland.....	15,941	5,039 ¹
TERRITORIES AND DEPENDENCIES			*United Kingdom of Great Britain and Northern Ireland.....	94,215	51,43040
Netherlands—			England and Wales.....	68,345	44,667
Netherlands New Guinea....	159,375	700	Northern Ireland.....	5,459	1,397
Portugal—			Scotland.....	30,411	6,145
Macau.....	6	188 ³	Vatican.....	-	1 ³
Portuguese India ³⁶	1,619	645	Yugoslavia.....	98,766	17,886
Portuguese Timor.....	5,763	478			
United Kingdom—			TERRITORIES AND DEPENDENCIES		
*Aden Colony.....	80	140 ³	Denmark—		
*Aden Protectorate.....	112,000	650 ³	Faeroe Islands.....	540	35 ¹
*Brunei.....	2,226	66	Norway—		
*Cyprus.....	3,572	526	Svalbard and Jan Mayen Islands.....	24,101	19 ¹
*Hong Kong.....	391	2,440	United Kingdom—		
*North Borneo.....	29,387	383	*Channel Islands.....	75	100
*Sarawak.....	47,071	626	*Gibraltar.....	2	25
*Singapore ³⁷	286	1,264	*Isle of Man.....	227	55
			*Malta and Gozo.....	122	314
FORMER MANDATED TERRITORY (United Kingdom)					
Palestine.....	10,459	1,912 ³			
Gaza Strip.....	78	330			
MILITARY GOVERNMENT (United States)			Oceania		
Bonin Islands.....	40	--	*Australia (excl. aborigines)...	2,974,583	9,428
Ryukyu Islands.....	848	807	*New Zealand.....	103,473	2,178

For footnotes, see end of table, p. 174.

28—Areas and Populations of the Countries or Areas of the World 1956—concluded

Continent and Country	Area	Population	Continent and Country	Area	Population
	sq. miles	'000		sq. miles	'000
Oceania—continued			Oceania—concluded		
TERRITORIES AND DEPENDENCIES			TERRITORIES AND DEPENDENCIES—concluded		
Australia—			United States—		
*Cocos (Keeling) Islands....	5	1	American Samoa.....	76	20
*Norfolk Island.....	14	1	Guam.....	206	37
*Papua.....	90,540	452	Hawaii.....	6,423	584 ¹⁹
			TRUST TERRITORIES		
France—			*Nauru (Aust. Adm.).....	8	4
New Caledonia and depend-			*New Guinea (Aust. Adm.)...	93,000 ⁴⁴	1,287
encies.....	7,202	68 ³	Pacific Islands (U.S. Adm.) ⁴⁵	687 ⁴⁴	65
Polynesia (French Oceania) ⁴²	1,544	75	*Western Samoa (N.Z. Adm.)...	1,130	98
			CONDOMINIUM		
New Zealand—			*New Hebrides (Anglo-		
*Cook Islands.....	90	17	French).....	5,700	54 ²
*Niue.....	100	5			
*Tokelau Islands.....	4	2	Union of Soviet Socialist		
			Republics		
United Kingdom—			Union of Soviet Socialist		
*British Solomon Islands....	11,500	100 ³	Republics.....	8,649,821	200,200 ³
*Fiji Islands.....	7,055	346			
*Gilbert and Ellice Islands ⁴³	369	39 ³			
*Pitcairn.....	2	--			
*Tonga.....	269	57			

- ¹ *De jure* population. ² Northern zone only. ³ Latest official estimate. ⁴ Excluding Walvis Bay.
- ⁵ Area of inhabited and cultivated territory is 13,442 sq. miles. ⁶ Excluding nomad population. ⁷ Excluding Palestinian refugees numbering 89,977 in June 1956. ⁸ Comprising Algiers, Constantine and Oran. ⁹ Comprising Chad, Gabon, Middle Congo and Ubangi-Shari. ¹⁰ Comprising Dahomey, French Guinea, French Sudan, Ivory Coast, Mauritania, Niger, Senegal and Dakar, and Upper Volta. ¹¹ Comprising the islands of Saint-Paul, Nouvelle Amsterdam, the Kerguelen and Crozet Archipelagos and Terre Adélie. ¹² Including nomad and other population estimated at 34,400 in 1946. ¹³ Including seasonal immigrants estimated at 9,600 in 1956. ¹⁴ Population figure for St. Helena and Ascension only. ¹⁵ Including Walvis Bay. ¹⁶ *De jure* population, but excluding civilian citizens of continental U.S. absent from country for extended periods of time. Census figure also excludes an estimated 435,000 members of the armed forces outside continental U.S. at time of census. ¹⁷ Comprising Aruba, Bonaire, Curaçao, Saba, St. Eustatius and part of St. Martin. ¹⁸ Excluding tourists, and U.K. and U.S. armed forces and their dependants stationed in the area. ¹⁹ *De jure* population, but including U.S. armed forces stationed in the area. ²⁰ Comprising St. Croix, St. John and St. Thomas. ²¹ Excluding Indian jungle population, numbering 45,429 in 1950. ²² *De jure* population but excluding Indian jungle population. ²³ Excluding Indian jungle population, numbering 56,705 in 1950. ²⁴ Comprising Cayenne and Inini. ²⁵ Excluding Indian and Negro population living in tribes, estimated at 29,880 in 1956. ²⁶ Dissolved 1958. ²⁷ Excluding nomads, estimated at 250,000, and foreigners. ²⁸ Excluding military personnel, their families living in military installations, and foreigners, except Palestinian refugees numbering 512,706 in June 1956. ²⁹ Comprising islands of Taiwan and Pescadores. ³⁰ Excluding foreigners and armed forces. ³¹ Comprising Hokkaido, Honshu, Shikoku, Kyushu, small outlying islands, the Tokara Archipelago and the Amami Islands. ³² Lebanese nationals only, excluding Palestinian refugees numbering 102,625 in June 1956. ³³ Excluding transients afloat and service personnel in service establishments. ³⁴ Excluding Kashmir-Jammu, Jinnagdh, Manavadar, Gilgit and Baltistan. ³⁵ Including 3,807 sq. miles of swamps and lakes. ³⁶ Comprising Damão, Diu and Goa. ³⁷ Comprising Singapore Island and Christmas Island. ³⁸ Including the Azores and Madeira Islands. ³⁹ Including the Balearic and Canary Islands. ⁴⁰ Including armed forces outside the country but excluding Commonwealth and foreign armed forces stationed in the area. ⁴¹ Inhabited only during winter season; included also in Norway. ⁴² Comprising Austral, Gambier, Marquesas, Rapa, Society and Tuamotu Islands. ⁴³ Including Phoenix Island group, and Christmas, Fanning, Ocean and Washington Islands. ⁴⁴ Land area only. ⁴⁵ Comprising the Carolines, Marianas and Marshall Islands.

CHAPTER IV.—IMMIGRATION AND CITIZENSHIP

CONSPECTUS

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NOTE.—The interpretation of the symbols used in the tables throughout the Year Book will be found facing p. 1 of this volume.

PART I.—IMMIGRATION AND EMIGRATION*

The history of immigration and the Immigration Act and Regulations is dealt with in detail in a special article entitled "Developments in Canadian Immigration" appearing in the 1957-58 Year Book at pp. 154-176. Supplementing that material is an article on the "Integration of Postwar Immigrants" at pp. 176-178 of the present volume.

Section 1.—Immigration Policy and Administration

Since the end of the Second World War it has been the policy of the Government of Canada to stimulate the growth of the population by selective immigration. Efforts are made to choose immigrants of prospective adaptability to the Canadian way of life and to admit them at such times and in such numbers as employment conditions warrant.

Federal immigration policy is governed by the provisions of the Immigration Act and Regulations, which permit the admission to Canada of British subjects by birth or naturalization in the United Kingdom, Australia, New Zealand or South Africa; citizens of Ireland and of the United States; French citizens born or naturalized in France or on the islands of St. Pierre and Miquelon. All, however, must be in good health, be of good character, and have sufficient means to maintain themselves until they have secured employment. Other classes of admissible immigrants consist of persons considered to be desirable in the light of social and economic conditions prevailing in Canada at the time, and possessed of qualifications for successful integration. Also admissible are wives, husbands, unmarried children under 21 years of age, fathers over 65 and mothers over 60 of legal residents of Canada who are in a position to receive and care for their dependants, provided such dependants satisfy the requirements of the Immigration Act and Regulations. Nationals of India, Pakistan and Ceylon are admitted in specified numbers.

The Immigration Branch of the Department of Citizenship and Immigration administers the Immigration Act and Regulations. Twenty-seven visa officers are located abroad at London, Liverpool, Leeds, Bristol, Glasgow, Belfast, Dublin, Paris, Brussels, Berne, The Hague, Copenhagen, Cologne, Berlin, Hamburg, Munich, Stuttgart, Vienna, Oslo,

* Sections 1 and 2 of this Part were revised under the direction of Laval Fortier, Deputy Minister, Department of Citizenship and Immigration, Ottawa.

Stockholm, Helsinki, Lisbon, Rome, Athens, Tel Aviv, New Delhi and Hong Kong. Two offices in the United States—at New York and Chicago—furnish information and counseling but do not issue visas. Personnel at all posts are kept in close touch with economic conditions in Canada and thus are able to advise immigrants regarding prospects for successful settlement. Examination of immigrants and visitors is carried out at 343 ports of entry on the Canadian coasts, at points along the International Boundary, and at certain airports.

A primary objective of administration is satisfactory settlement. The Federal Government assists immigrants in establishing themselves in the Canadian community through the work of the Immigration Branch Settlement Service, the Canadian Citizenship and Canadian Citizenship Registration Branches and other government agencies, and co-operates closely with several voluntary agencies having the same objective.

INTEGRATION OF POSTWAR IMMIGRANTS*

Immigration to Canada since 1945 approached the two million mark by the end of 1958. Approximately one-third of the immigrants have been of British or French stock, the remainder representing about fifty different ethnic origins. To help the immigrants of so many linguistic and cultural backgrounds adjust to life in Canada has been a major undertaking requiring the joint efforts of the government and of the people generally.

The Citizenship Branch of the Department of Citizenship and Immigration is the government agency mainly responsible for the integration of immigrants. The Branch was established in 1941 as the Nationalities Branch of the Department of National War Services, at which time its purpose was to promote better understanding of the various ethnic groups in Canada and to further their contribution to the war effort. In November 1945 the Citizenship Branch was transferred to the Department of the Secretary of State and later became a part of the Department of Citizenship and Immigration when that Department was formed in January 1950. After the War, the Branch directed its attention to the great numbers of immigrants who came to this country, encouraging them to attend language classes and to prepare for Canadian citizenship; and interpreting their needs to the Canadian people, especially to the voluntary organizations that were interested in welcoming and assisting them.

To become a Canadian citizen, the newcomer must have his place of residence in Canada for five years; be able to speak English or French; and must satisfy the court that he has an understanding of the responsibilities and privileges of Canadian citizenship. There is no prescribed examination. Each judge determines the form and extent of the examination in his particular court. A British subject ordinarily does not have to appear for examination before a court but otherwise must fulfil the same requirements as an alien.

The primary step in the integration process is to learn the language. Without a knowledge of the language spoken in a community, there can be no real communication with the people who live there and only an inadequate understanding of the laws and customs of the country. The Citizenship Branch, under arrangements with the provincial departments of education, provides free textbooks and pays 50 p.c. of the amount expended by the provinces towards the teaching costs of language classes. Most of the classes are set up and administered by local school boards. Thus, classes have been made available in almost all of the centres where numbers of immigrants have settled. They are usually evening classes held in schoolrooms during the school year.

* Prepared by the Citizenship Branch, Department of Citizenship and Immigration, Ottawa.

Many voluntary organizations, immigrant aid societies and church groups also provide language instruction. Some of these classes are designed to meet the special needs of housewives, night-workers and others who are unable to attend evening classes. They, too, receive the benefit of free textbooks as do isolated individuals who must learn the language by themselves or with the help of a tutor.

Because preparation for citizenship also requires a basic knowledge of Canada, its institutions and traditions, and an understanding of the structure and functions of the Canadian Government, the Citizenship Branch publishes booklets that are available free to all newcomers and for the use of language and citizenship classes. The booklets include *Canadian Scene* and the Canadian Citizenship Series—*Our Land, Our History, Our System of Government, Our Resources*, and *The Arts in Canada*.

The process of integration involves a great deal more than learning the language and acquiring citizenship. The newcomer must develop a sense of belonging to the Canadian community and this can happen only when he feels he is fully accepted by Canadians and that he is making a contribution to Canadian life. In the economic sense this may happen fairly quickly, but socially and culturally it takes much longer.

The Citizenship Branch has based its integration program on the premise that Canadian culture will be enriched and strengthened by diversity. Traditionally, Canada is a country with two basic cultures—English and French—and from the very beginning of Canada's history as a nation the principle of acceptance of religious, cultural and social differences has been recognized. The influx of immigrants from many ethnic backgrounds has added cultural variety without changing this basic principle. At the same time, all Canadians share a common citizenship within a common framework of government and democratic institutions. All take pride in Canadian achievements and in the development of Canadian culture.

In keeping with the democratic belief in the dignity and freedom of the individual, it is felt that integration should be voluntary and should not be pressed. It is assumed that integration is more moderate in its demands on the immigrant and less painful for him than assimilation would be. Assimilation usually means the complete absorption of the newcomer by the dominant culture. In the process, cultural and social differences are worn off and a more-or-less homogeneous society emerges. Integration, on the other hand, recognizes and respects the cultural contributions that may be made by people of diverse ethnic backgrounds who, nevertheless, are devoted to the welfare of the same country.

The ultimate responsibility for integration rests with the Canadian people for, without their acceptance of the newcomers into community life, there can be no integration. One of the main objectives of the Citizenship Branch therefore has been to encourage understanding and co-operation between old and new Canadians and between the various ethnic groups in the population.

There are many kinds of non-governmental organizations interested in the welfare and adjustment of immigrants which are co-operating with the Citizenship Branch in carrying out its objectives. They include immigrant aid societies, women's organizations, service clubs, welfare agencies, church groups, educational bodies, citizenship councils and ethnic organizations.

The immigrant aid societies have as their express purpose the assistance of newcomers. This they do by meeting the immigrants at the ports of entry, helping them get settled, directing them to the regular community services, and sometimes providing educational programs and special counselling services for them. Other organizations with broader community or educational aims include the integration of newcomers in their program planning. Language classes for housewives, social gatherings, program participation by newcomers, receptions following citizenship court ceremonies—these are some of the ways in which voluntary groups help the new Canadians find their place in the community. In some areas there are dozens of organizations and agencies working on behalf of newcomers. This has led to the formation of co-ordinating bodies or citizenship councils in many centres so that the work may be carried on more effectively and with less overlapping.

Prominent among the groups specially concerned about immigrants are the ethnic organizations, associations of people grouped according to ethnic background—Dutch, German, Italian, Chinese, and so on. While they have a variety of aims and interests, most of the ethnic organizations have a sense of responsibility towards newcomers of their own language and culture and often help them over the difficult early months or even years in the new country. At an ethnic centre the newcomer finds friends who speak his own language and who can explain many of the things that puzzle him about his new environment. He loses his social isolation and finds release from frustrations and tensions. In a strictly practical way, also, many ethnic organizations offer advice and counselling and give assistance in learning the language.

A similar source of help is available to newcomers through the ethnic press. There are over 150 newspapers and periodicals in Canada that are printed in languages other than English or French. Many of these papers publish Canadian news as well as news from the homeland. They help to interpret the Canadian scene and very often the editorial columns offer good advice to newcomers.

Thus the foreign language press and the ethnic organizations both provide a bridge from the old world to the new and facilitate the adjustment of immigrants to their adopted land.

The Citizenship Branch welcomes the activities of voluntary groups on behalf of newcomers and assists them in various ways. Publications, films and filmstrips on citizenship and integration topics are made available for program purposes. *Citizen*, a periodical published five times a year, is designed especially as a service to voluntary organizations engaged in citizenship programs.

Contact between the Branch and non-governmental organizations is maintained by the Liaison Division of the Citizenship Branch. Several area offices have been established for this purpose, one in each of the four western provinces, four in Ontario, two in Quebec and one in the Atlantic region. In addition, a senior officer has been stationed in Toronto and one in Montreal to supervise the servicing of the two most populous provinces, and a national office in Ottawa has the special responsibility of working with national organizations.

The liaison officers are available for consultation regarding the policy and resources of the Citizenship Branch and for assistance in planning citizenship and integration programs or projects. They frequently act in an advisory or resource capacity at conferences, seminars or workshops where integration or intergroup relations are central themes. Financial assistance is sometimes given by the Branch to community projects of a pilot nature, and to organizations that undertake a particular task in the field of integration or intergroup relations. The Citizenship Branch promotes and sponsors regional conferences and other meetings in this field.

The Branch has sponsored two national citizenship seminars, the first in 1953 at Scarborough near Toronto, and the second in 1958 at Minaki near Winnipeg. These occasions gave government officials and community leaders from all parts of Canada an opportunity to exchange ideas on integration problems and the respective roles of government and voluntary organizations.

Section 2.—Immigration Statistics

The numbers of immigrant arrivals in Canada year by year from 1913 to 1957 are shown in Table 1. Tables 2 to 8 provide statistical analyses of the content of the immigration movement in recent years. The numbers of persons refused admission at ports of entry and those deported from Canada in the years 1955-57 are given in Table 9.

During the period 1913-57, 4,124,246 immigrants were admitted to Canada. The annual influx ranged from a high of 400,870 in 1913 to a low of 7,576 in 1942, the average yearly intake for the period being 91,650. The total number of immigrant arrivals in the postwar period 1946-57 was 1,669,340, representing an average of 139,112 a year.

1.—Immigrant Arrivals 1913-57

NOTE.—Figures for 1852-93 are given in the 1942 Year Book, p. 153, and for 1894-1912 in the 1948-49 edition, p. 175.

Year	Arrivals	Year	Arrivals	Year	Arrivals	Year	Arrivals	Year	Arrivals
	No.		No.		No.		No.		No.
1913.....	400,870	1922.....	64,224	1931.....	27,530	1940.....	11,324	1949.....	95,217
1914.....	150,484	1923.....	133,729	1932.....	20,591	1941.....	9,329	1950.....	73,912
1915.....	36,665	1924.....	124,164	1933.....	14,382	1942.....	7,576	1951.....	194,391
1916.....	55,914	1925.....	84,907	1934.....	12,476	1943.....	8,504	1952.....	164,498
1917.....	72,910	1926.....	135,982	1935.....	11,277	1944.....	12,801	1953.....	168,868
1918.....	41,845	1927.....	158,886	1936.....	11,643	1945.....	22,722	1954.....	154,227
1919.....	107,698	1928.....	166,783	1937.....	15,101	1946.....	71,719	1955.....	109,946
1920.....	138,824	1929.....	164,993	1938.....	17,244	1947.....	64,127	1956.....	164,857
1921.....	91,728	1930.....	104,806	1939.....	16,994	1948.....	125,414	1957.....	282,164

The figures of Table 2 show that during the five-year period 1953-57, 33.1 p.c. of the immigration flow came from the United Kingdom and Ireland, 55.1 p.c. from Continental Europe, 5.8 p.c. from the United States and 6.0 p.c. from all other countries.

2.—Immigrant Admissions by Country of Last Permanent Residence 1953-57

NOTE.—Comparable figures for 1946-49 are given in the 1951 Year Book, p. 143, and for 1950-52 in the 1956 edition, p. 182; figures in less detail for 1939-45 appear in the 1950 edition, p. 186.

Country	1953	1954	1955	1956	1957
	No.	No.	No.	No.	No.
British Isles—					
England.....	31,929	29,618	21,813	36,422	79,811
Northern Ireland.....	4,255	2,889	1,397	2,967	4,988
Scotland.....	9,683	9,919	5,472	10,055	22,180
Wales.....	707	694	546	802	1,724
Lesser Isles.....	217	261	154	144	286
Totals, British Isles.....	46,791	43,381	29,382	50,390	108,989
Other Commonwealth.....	4,021	4,770	4,548	5,191	7,383
Totals, Commonwealth.....	50,812	48,151	33,930	55,581	116,372
Republic of Ireland.....	2,121	2,059	1,038	2,229	5,358
Continental Europe—					
Czechoslovakia.....	27	16	30	30	20
France.....	4,045	3,672	2,869	3,809	5,869
Germany.....	34,193	28,479	17,630	26,061	28,430
Italy.....	23,704	23,780	19,139	27,939	27,740
Netherlands.....	20,341	16,182	6,759	7,792	11,934
Poland.....	136	45	113	186	690
Union of Soviet Socialist Republics ¹	69	24	4	14	19
Other European countries.....	17,750	17,144	13,394	26,699	67,773
United States ²	9,407	10,131	10,395	9,777	11,008
Other countries.....	6,263	4,544	4,645	4,740	6,951
Totals, All Countries.....	168,868	154,227	109,946	164,857	282,164

¹ In both Europe and Asia.² Includes U.S. citizens on permit but applying for permanent residence.

Sex, Age and Marital Status.—In the ten-year period 1948-57 adult males comprised 42.0 p.c. of the immigrant arrivals, adult females 32.9 p.c. and children under 18 years of age the remaining 25.1 p.c. Without relation to age, 55.2 p.c. of the newcomers were males.

3.—Sex Distribution of Immigrants as Adult Males, Adult Females and Children, 1948-57

NOTE.—Figures from 1930 are given in the corresponding table of previous Year Books beginning with the 1946 edition.

Year	Adult Males	Adult Females	Under 18 Years		Total
			Males	Females	
	No.	No.	No.	No.	No.
1948.....	52,986	45,191	14,104	13,133	125,414
1949.....	39,044	32,957	12,118	11,098	95,217
1950.....	30,700	24,172	10,287	8,753	73,912
1951.....	95,818	53,239	24,348	20,986	194,391
1952.....	66,083	53,443	23,766	21,206	164,498
1953.....	68,269	56,425	23,153	21,021	168,868
1954.....	64,551	51,690	19,980	18,006	154,227
1955.....	42,425	40,120	14,403	12,998	109,946
1956.....	67,880	55,574	21,661	19,742	164,857
1957.....	115,765	92,202	38,461	35,736	282,164

In 1957, 77.7 p.c. of the males and 74.9 p.c. of the females arriving were 15 years of age or over as compared with 78.9 p.c. and 77.0 p.c. respectively in 1956. Of those arriving in 1957 who were 15 years of age or over, 56.7 p.c. were married, 39.4 p.c. were single and 3.5 p.c. were widowed or divorced. The total number of single males exceeded the number of single females by 29,550 but there were more females than males in the widowed and divorced categories. In the single class, males were 48.5 p.c. more numerous than females, the numerical superiority being particularly heavy in the age group 15-29 years.

4.—Sex and Marital Status of Immigrant Arrivals, by Age Group, 1957

Age Group	Males					Total
	Single	Married	Widowed	Divorced	Separated	
	No.	No.	No.	No.	No.	No.
0 - 14 years.....	34,337	—	—	—	—	34,337
15 - 19 ".....	10,752	—	—	1	—	10,882
20 - 24 ".....	24,281	5,562	9	28	18	29,898
25 - 29 ".....	13,620	15,434	34	162	78	29,328
30 - 39 ".....	6,227	26,092	82	458	130	32,989
40 - 49 ".....	978	10,077	103	267	84	11,509
50 - 59 ".....	209	3,193	136	65	26	3,629
60 years or over.....	63	1,201	350	26	14	1,654
Totals.....	90,467	61,688	714	1,007	350	154,226

4.—Sex and Marital Status of Immigrant Arrivals, by Age Group, 1957—concluded

Age Group	Females					
	Single	Married	Widowed	Divorced	Separated	Total
	No.	No.	No.	No.	No.	No.
0 - 14 years.....	32,049	—	—	—	—	32,049
15 - 19 ".....	7,375	1,663	5	2	2	9,047
20 - 24 ".....	11,070	12,675	28	89	32	23,894
25 - 29 ".....	5,599	15,302	50	223	68	21,242
30 - 39 ".....	3,509	20,034	247	559	116	24,465
40 - 49 ".....	853	7,199	547	411	96	9,106
50 - 59 ".....	298	2,827	1,223	252	141	4,741
60 years or over.....	164	994	2,086	84	66	3,394
Totals.....	60,917	60,694	4,186	1,620	521	127,938

Birthplace, Nationality and Origin.—Of the immigrant arrivals in 1957, 41.8 p.c. were born in Commonwealth countries or in the Republic of Ireland, compared with 33.5 p.c. in 1956, 30.3 p.c. in 1955, 31.2 p.c. in 1954, 29.9 p.c. in 1953 and 28.2 p.c. in 1952. In 1957, 23.7 p.c. of the newcomers were born in Germany, Italy or the Netherlands, 3.2 p.c. were born in the United States and 31.3 p.c. in other countries.

5.—Birthplaces of Immigrant Arrivals 1955-57

NOTE.—Figures from 1942 are given in the corresponding table of previous Year Books beginning with the 1948-49 edition.

Birthplace	1955	1956	1957	Birthplace	1955	1956	1957
No.	No.	No.	No.	No.	No.	No.	No.
Commonwealth—				Continent of South America.....	506	492	763
British Isles—				Continent of Asia—			
England.....	18,597	31,271	71,750	China.....	2,623	2,174	1,740
Northern Ireland.....	1,549	3,142	5,358	Israel.....	99	162	245
Scotland.....	5,775	10,332	22,528	Japan.....	110	142	204
Wales.....	734	1,097	2,345	Other.....	731	1,099	924
Lesser Isles.....	118	122	220	Continent of Europe—			
Totals, British Isles....	26,773	45,964	102,201	Austria.....	1,996	3,126	2,620
Other Commonwealth—				Belgium.....	1,215	2,370	3,126
Africa (British).....	443	589	811	Czechoslovakia.....	663	892	933
Australia.....	1,302	1,605	2,582	Denmark.....	1,378	3,583	7,707
Canada.....	669	660	650	Finland.....	642	1,099	2,833
India.....	538	729	894	France.....	2,336	3,077	4,845
New Zealand.....	310	393	608	Germany.....	15,288	23,216	26,486
West Indies (British).....	804	1,065	1,217	Greece.....	2,927	5,078	5,464
Other.....	840	1,070	1,481	Hungary.....	680	4,583	31,897
Republic of Ireland.....	1,584	3,221	7,626	Italy.....	19,960	29,189	28,694
Continent of Africa (other than British).....	83	488	2,540	Latvia.....	338	346	379
Continent of North America—				Lithuania.....	177	209	199
Central America.....	25	28	33	Netherlands.....	6,655	7,627	11,689
Mexico.....	72	59	119	No way.....	722	848	1,333
United States.....	8,487	8,016	9,092	Poland.....	2,350	2,593	3,182
Other.....	87	78	94	Romania.....	557	714	957
				Switzerland.....	739	1,243	1,510
				Union of Soviet Socialist Republics.....	1,109	968	1,150
				Yugoslavia.....	1,916	2,803	6,262
				Other.....	1,961	2,611	6,665
				Grand Totals.....	109,946¹	164,857²	282,164³

¹ In both Europe and Asia.

² Includes 5 born at sea and 245 not stated.

³ Includes 3 born at sea

and 645 not stated.

⁴ Includes 12 born at sea and 397 not stated.

Out of every one hundred immigrants admitted to Canada during the three-year period 1955-57, 40 were British subjects, 10 were citizens of Germany, 10 of Italy, 4 of the Netherlands and 4 of the United States; other nationalities made up the remaining 32.

6.—Citizenship of Immigrant Arrivals 1955-57

NOTE.—Figures from 1930 are given in the corresponding table of previous Year Books beginning with the 1936 edition.

Country of Citizenship	1955	1956	1957	Country of Citizenship	1955	1956	1957
No.	No.	No.	No.	No.	No.	No.	No.
Australia.....	1,298	1,682	2,738	Netherlands.....	6,885	7,896	12,132
Austria.....	1,997	3,193	2,498	New Zealand.....	306	381	596
Belgium.....	1,027	2,226	2,917	Norway.....	686	838	1,321
Central America.....	20	17	18	Pakistan.....	48	36	83
Ceylon.....	20	61	15	Poland.....	169	267	810
China.....	2,535	2,044	1,560	Portugal.....	1,212	1,729	4,486
Czechoslovakia.....	36	30	14	South America.....	350	310	506
Denmark.....	1,379	3,605	7,780	Southern Rhodesia.....	35	25	40
Egypt.....	32	78	156	Spain.....	146	359	845
Estonia.....	46	30	23	Sweden.....	278	416	788
Finland.....	628	1,074	2,811	Switzerland.....	728	1,215	1,515
France.....	2,332	3,427	6,204	Syria.....	26	14	18
Germany.....	17,138	25,590	28,513	Tunisia.....	..	..	55
Greece.....	2,907	5,104	5,498	Turkey.....	22	48	120
Hungary.....	139	3,914	31,801	Union of South Africa.....	276	365	513
India.....	192	249	177	U.S.S.R.....	26	27	48
Ireland.....	1,261	2,664	6,398	United Kingdom and Colonies.....	30,195	50,563	109,252
Israel.....	276	346	537	United States.....	9,597	9,038	10,087
Italy.....	20,077	29,522	28,935	Yugoslavia.....	394	460	1,050
Japan.....	99	121	180	Other African.....	..	28	63
Latvia.....	118	82	101	Other Asian.....	29	64	62
Lebanon.....	334	452	416	Other European.....	43	87	119
Lithuania.....	55	50	27	Others.....	4,442	4,915	7,771
Luxembourg.....	42	166	159				
Mexico.....	65	49	88				
Morocco.....	..	..	320				
				Totals.....	109,946	164,857	282,164

Immigrants of Continental European origin comprised 56.6 p.c. of the influx during 1957 and those of British origin made up 42 p.c. Proportions of Continental Europeans in 1955 and 1956 were 64.1 p.c. and 63.2 p.c., respectively, and British origin 32.3 p.c. and 34.3 p.c. in the same period.

7.—Origins of Immigrant Arrivals 1955-57

NOTE.—Figures from 1926 are given in the corresponding table of previous Year Books beginning with the 1939 edition.

Origin	1955	1956	1957	Origin	1955	1956	1957
No.	No.	No.	No.	No.	No.	No.	No.
British—				Continental European—			
English.....	22,422	35,204	75,546	concluded.....	356	342	434
Irish.....	4,910	8,242	15,828	Latvian.....	191	216	190
Scottish.....	7,289	11,987	24,533	Lithuanian.....	37	153	127
Welsh.....	846	1,154	2,629	Luxembourg.....	355	381	657
Totals, British.....	35,467	56,587	118,536	Multese.....	7,328	8,257	12,720
Continental European—				Netherlands.....	2,073	2,438	3,096
Albanian.....	21	6	26	Portuguese.....	1,439	1,984	4,768
Austrian.....	1,835	2,982	2,364	Romanian.....	105	153	213
Belgian.....	1,015	2,143	2,811	Russian.....	297	288	442
Bulgarian.....	41	33	59	Scandinavian—			
Czech.....	354	347	360	Danish.....	1,496	3,713	7,883
Estonian.....	194	166	226	Icelandic.....	25	41	61
Finnish.....	652	1,128	2,884	Norwegian.....	898	1,011	1,536
French.....	2,941	3,768	6,214	Swedish.....	488	596	991
German.....	19,588	27,843	31,191	Spanish.....	335	571	1,235
Greek.....	3,057	5,274	5,706	Swiss.....	680	1,115	1,358
Hungarian.....	478	4,340	29,911	Ukrainian.....	560	578	530
Italian.....	20,545	30,064	29,763	Yugoslavia.....	1,416	2,043	5,771
Jewish.....	1,660	2,190	6,037	Totals, Continental European.....	70,460	104,164	159,564

For footnotes, see end of table.

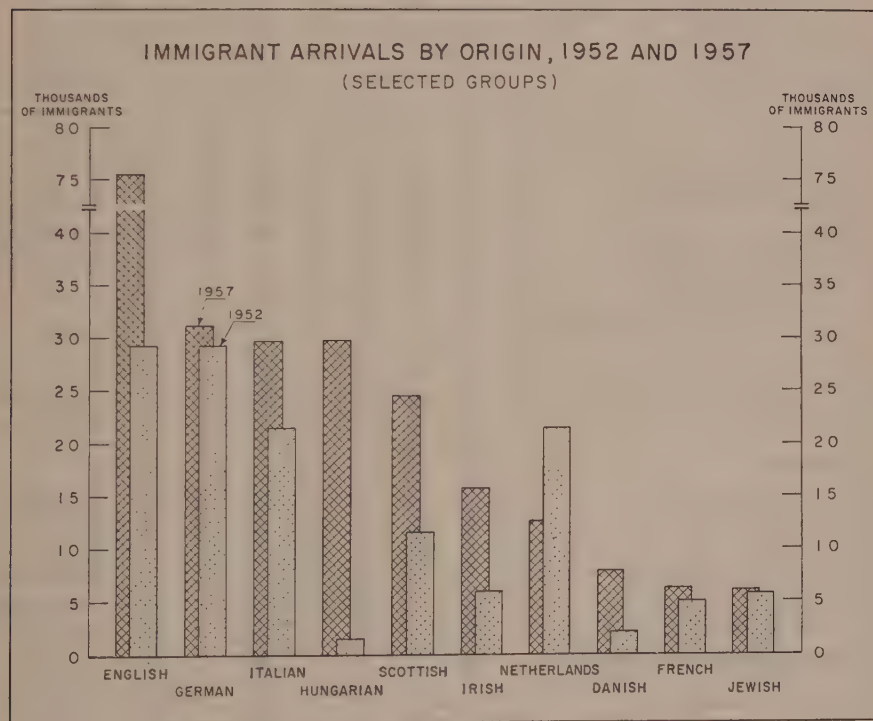
7.—Origins of Immigrant Arrivals 1955-57—concluded

Origin	1955	1956	1957	Origin	1955	1956	1957
No.	No.	No.	No.	No.	No.	No.	No.
Other—				Other—concluded			
Arabian.....	56	87	91	Negro.....	414	572	723
Armenian.....	144	189	285	Persian.....	15	11	24
Chinese.....	2,602	2,103	1,686	Turkish.....	20	56	93
East Indian.....	249	332	334	Not stated.....	52	80	146
Indian (American).....	28	31	24				
Japanese.....	102	124	185	Totals, Other.....	4,019	4,106	4,064
Lebanese ¹	326	494	453				
Mexican.....	11	27	20	Grand Totals.....	109,946	164,857	282,164

¹ Includes a few minor groups, such as German, French, Italian, etc.

² Reported as Swiss origin but evidently one of the constituent races

³ Includes 118 Syrian in 1955, 80 in 1956 and 92 in 1957.



Destination and Occupation.—Approximately 54 p.c. of the immigrants admitted to Canada in 1957 declared that they would enter the labour force. The other 46 p.c. were wives, children, other dependants and retired persons. Of the workers, 11.4 p.c. were classed as professional and managerial, 7.2 p.c. were in agricultural occupations, 11.6 p.c. in service occupations, 35.9 p.c. in manufacturing, mechanical and construction trades, and 12.9 p.c. were general labourers. Almost 50 p.c. of the gainfully occupied female immigrants were in service occupations.

Ontario absorbed 52.1 p.c. of the arrivals in 1957, Quebec 19.5 p.c., British Columbia and the Prairie Provinces 26.6 p.c. and the Atlantic Provinces 1.8 p.c.

8.—Intended Destination and Occupation of Immigrants Admitted to Canada 1957

No.	Intended Occupation	Intended Destination									
		Nfld.		P.E.I.		N.S.		N.B.		Que.	
		M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
		No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
1	Managerial (owners, managers, officials)	4	—	—	—	10	1	9	—	260	10
2	Professional	62	94	4	—	162	75	95	24	2,941	818
3	Accountants and auditors	—	—	—	—	3	—	7	—	194	9
4	Architects	—	—	—	—	8	—	2	—	75	3
5	Chemists (other than pharmacists)	1	—	—	—	6	—	1	1	136	11
6	Dentists	1	—	—	—	4	—	—	—	14	—
7	Draughtsmen and designers	2	—	—	—	8	1	2	—	587	37
8	Aeronautical engineers	1	—	—	—	3	—	—	—	100	—
9	Chemical engineers	—	—	—	—	1	—	—	—	52	—
10	Civil engineers (and other professional engineers, n.e.s.)	4	—	—	—	8	—	4	—	229	2
11	Forestry engineers	—	—	—	—	1	—	—	—	7	—
12	Electrical engineers	1	—	—	—	10	—	3	—	306	—
13	Mechanical engineers	—	—	—	—	5	—	3	—	217	1
14	Metallurgical engineers	—	—	—	—	—	—	—	—	8	—
15	Mining engineers	—	—	—	—	2	—	1	—	20	—
16	Laboratory technicians and assistants, n.e.s.	—	1	—	—	7	7	3	2	165	64
17	Graduate nurses	—	81	—	—	—	13	—	6	—	243
18	Physicians and surgeons	25	—	—	—	16	2	9	1	116	22
19	Teachers and professors	12	7	1	—	38	27	18	6	150	175
20	Other professional workers	15	5	3	—	42	25	42	8	556	251
21	Clerical	7	18	3	3	49	80	26	35	1,232	1,953
22	Stenographers and typists	—	11	—	2	2	42	—	13	37	1,221
23	Other clerical workers	7	7	3	1	47	38	26	22	1,195	732
24	Transportation	4	—	2	—	35	—	20	—	1,186	4
25	Air pilots, captains and mates, railway conductors, locomotive engineers, etc.	2	—	2	—	13	—	1	—	120	—
26	Other transportation workers	2	—	—	—	22	—	19	—	1,066	4
27	Communication	2	—	—	—	7	4	1	2	99	47
28	Commercial	6	—	—	—	27	11	21	—	719	250
29	Commercial travellers and salesmen	4	—	—	—	21	1	11	—	459	7
30	Sales clerks	—	—	—	—	4	9	3	5	89	188
31	Other trading workers	2	—	—	—	2	1	7	—	171	55
32	Financial	—	—	—	—	—	—	2	—	87	2
33	Service	12	16	6	9	74	193	24	70	1,162	3,675
34	Barbers, hairdressers, manicurists	—	1	2	—	1	5	3	3	137	160
35	Nurses' aides	1	1	—	1	2	16	1	6	32	212
36	Cooks	4	2	2	1	6	6	1	4	194	52
37	Domestic servants	—	6	—	6	—	147	1	55	34	3,037
38	Other non-professional service workers	7	6	2	1	65	19	18	2	765	214
39	Agricultural	3	—	11	—	115	4	69	—	1,770	35
40	Farmers and agriculturists	1	—	—	—	4	—	3	—	22	—
41	Farm labourers	2	—	11	—	111	4	66	—	1,748	35
42	Fishing, Trapping and Logging	4	—	1	—	10	—	20	—	107	—
43	Fishermen	1	—	1	—	2	—	—	—	2	—
44	Trappers	—	—	—	—	—	—	—	—	—	—
45	Bushmen and lumbermen	3	—	—	—	8	—	20	—	105	—
46	Mining	—	—	1	—	27	—	22	—	264	—
47	Miners	—	—	1	—	25	—	21	—	248	—
48	Oil field workers	—	—	—	—	1	—	—	—	9	—
49	Other workers in mines, quarries	—	—	—	—	1	—	1	—	7	—
50	Manufacturing, Mechanical and Construction	32	4	7	—	390	77	283	29	8,744	1,127
51	Aircraft mechanics and repairmen	1	—	1	—	7	—	1	—	170	—
52	Automobile mechanics and repairmen	1	—	—	—	29	—	23	—	597	—
53	Bakers	—	—	—	—	8	—	7	—	201	6
54	Blacksmiths, hammermen, forgemen	—	—	1	—	4	—	4	—	49	—
55	Boilermakers, platers	—	—	—	—	2	—	—	—	21	—
56	Brick and stone masons	1	—	—	—	10	—	17	—	486	—
57	Butchers and meat cutters	—	—	—	—	7	1	9	—	143	—
58	Butter and cheese makers	—	—	—	—	—	—	—	—	2	—
59	Cabinet and furniture makers	1	—	—	—	6	—	7	—	185	—

8.—Intended Destination and Occupation of Immigrants Admitted to Canada 1957—cont.

Intended Destination															Canada			No.
Ont.		Man.		Sask.		Alta.		B.C.		Yukon and N.W.T.		M.	F.	Total				
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.							
No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.				
529	26	20	2	24	—	107	3	203	6	2	—	1,168	48	1,216	1			
5,620	2,115	340	139	297	132	792	250	1,460	605	11	4	11,794	4,256	16,040	2			
345	19	16	5	5	—	55	—	96	8	—	—	721	41	762	3			
168	3	13	—	7	—	16	—	85	2	—	—	374	8	382	4			
218	26	5	2	7	—	28	—	38	4	1	—	441	44	485	5			
18	4	4	—	1	—	2	—	11	—	—	—	55	4	59	6			
1,321	76	40	5	10	2	92	9	182	29	—	—	2,244	159	2,403	7			
111	—	7	—	2	—	4	—	17	—	—	—	245	—	245	8			
72	1	7	—	—	—	10	—	12	—	—	—	154	1	155	9			
418	—	17	—	14	—	43	—	169	—	—	—	906	2	908	10			
8	—	—	—	1	—	1	—	7	—	—	—	25	—	25	11			
424	2	16	—	3	—	34	—	91	—	1	—	889	2	891	12			
398	1	27	—	1	—	20	—	78	—	1	—	750	2	752	13			
19	—	—	—	—	—	1	—	3	—	—	—	31	1	32	14			
28	1	2	—	7	—	20	—	10	—	4	—	94	—	94	15			
297	128	10	7	4	2	36	10	66	33	—	—	588	254	842	16			
—	1,016	—	58	—	44	—	93	—	171	—	4	—	1,729	1,729	17			
181	38	47	7	52	2	55	7	44	10	1	—	546	89	635	18			
245	415	35	23	80	61	77	72	185	201	1	—	851	987	1,838	19			
1,349	385	94	32	103	21	298	59	366	147	2	—	2,870	933	3,803	20			
3,159	6,578	177	205	39	70	339	476	853	1,524	1	2	5,885	10,944	16,829	21			
57	3,669	1	103	—	46	6	259	14	896	1	1	117	6,263	6,380	22			
3,102	2,909	176	102	39	24	333	217	839	628	1	1	5,768	4,681	10,449	23			
1,709	23	153	1	56	—	335	1	592	6	—	—	4,092	35	4,127	24			
143	—	7	—	—	—	15	—	78	—	—	—	381	—	381	25			
1,566	23	146	1	56	—	320	1	514	6	—	—	3,711	35	3,746	26			
303	395	16	15	3	4	36	22	94	77	—	—	561	566	1,127	27			
2,460	1,215	101	52	34	19	224	124	625	236	2	1	4,219	1,913	6,132	28			
1,790	31	61	2	21	—	153	7	449	8	1	—	2,970	56	3,026	29			
332	1,096	20	43	10	17	36	97	83	197	1	1	578	1,653	2,231	30			
338	88	20	7	3	2	35	20	93	31	—	—	671	204	875	31			
239	10	5	—	—	—	18	—	63	1	—	—	414	13	427	32			
1,939	6,494	166	509	94	185	238	741	539	1,417	1	10	4,255	13,319	17,574	33			
286	344	21	22	8	6	23	34	53	98	—	1	534	674	1,208	34			
129	637	9	43	19	17	13	83	49	192	—	—	255	1,208	1,463	35			
266	149	26	9	16	3	55	15	80	41	—	—	650	282	932	36			
47	4,823	7	399	1	145	3	569	4	954	—	7	97	10,148	10,245	37			
1,211	541	103	36	50	14	144	40	353	132	1	2	2,719	1,007	3,726	38			
4,836	66	767	8	373	2	1,389	6	1,371	13	—	—	10,704	134	10,838	39			
97	—	6	—	7	—	28	—	58	—	—	—	226	—	226	40			
4,739	66	761	8	366	2	1,361	6	1,313	13	—	—	10,478	134	10,612	41			
244	—	25	—	5	—	62	—	347	—	2	—	827	—	827	42			
5	—	—	—	—	—	1	—	15	—	1	—	28	—	28	43			
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	44			
239	—	25	—	5	—	61	—	332	—	1	—	799	—	799	45			
950	—	105	—	48	—	206	—	228	—	15	—	1,866	—	1,866	46			
887	—	100	—	35	—	167	—	206	—	13	—	1,703	—	1,703	47			
42	—	5	—	12	—	37	—	15	—	1	—	122	—	122	48			
21	—	—	—	1	—	2	—	7	—	1	—	41	—	41	49			
26,226	2,336	2,591	199	720	54	3,878	207	7,059	374	36	3	49,966	4,410	54,376	50			
364	—	27	—	3	—	25	—	75	—	—	—	674	—	674	51			
1,700	3	249	—	62	—	311	—	450	—	3	—	3,425	3	3,428	52			
458	16	77	1	17	—	102	1	131	5	—	—	1,001	29	1,030	53			
148	—	33	—	21	—	46	—	46	—	1	—	353	—	353	54			
78	—	2	—	1	—	9	—	42	—	—	—	155	—	155	55			
1,615	—	149	—	62	—	300	—	481	—	1	—	3,122	—	3,122	56			
426	1	61	—	18	—	76	—	121	—	—	—	861	2	863	57			
6	1	1	—	—	—	3	—	3	—	—	—	15	1	16	58			
503	—	98	—	24	—	123	—	140	—	—	—	1,087	—	1,087	59			

8.—Intended Destination and Occupation of Immigrants Admitted to Canada 1957—cont.

No.	Intended Occupation	Intended Destination									
		Nfld.		P.E.I.		N.S.		N.B.		Que.	
		M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
		No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
	Manufacturing, Mechanical and Construction—concluded										
1	Carpenters.....	3	—	2	—	19	—	32	—	606	—
2	Compositors and typesetters.....	—	—	—	—	1	—	1	—	46	—
3	Construction and machinery operators.....	—	—	—	—	3	—	1	—	51	—
4	Coremakers.....	—	—	—	—	—	—	—	—	1	—
5	Dressmakers and seamstresses.....	—	—	—	—	—	36	—	9	12	627
6	Electricians and wiremen.....	4	—	—	—	42	—	17	—	664	—
7	Electroplaters.....	—	—	—	—	—	—	—	—	15	—
8	Furriers.....	—	—	—	—	5	1	4	2	66	14
9	Glove makers.....	—	—	—	—	1	—	—	—	4	1
10	Jewellers and watchmakers.....	—	—	—	—	4	—	4	1	97	3
11	Leather cutters.....	—	—	—	—	4	—	—	—	1	—
12	Machine operators.....	1	—	—	—	25	—	12	1	384	4
13	Machinists.....	1	—	—	—	20	—	12	—	282	11
14	Mechanics and repairmen.....	6	—	—	—	21	—	14	—	851	—
15	Metal fitters and assemblers.....	1	—	—	—	33	1	18	—	544	4
16	Milliners.....	—	—	—	—	—	1	—	—	2	9
17	Millwrights.....	—	—	—	—	1	—	—	—	5	—
18	Moulders.....	—	—	—	—	—	—	—	—	66	—
19	Painters, decorators, glaziers.....	—	—	1	—	10	—	9	—	297	—
20	Patternmakers.....	—	—	—	—	—	—	—	—	22	—
21	Photoengravers and lithographers.....	—	—	—	—	2	—	—	—	7	—
22	Plasterers and lathers.....	—	—	—	—	—	—	—	—	49	—
23	Plumbers and pipe fitters.....	—	—	—	—	9	—	5	—	194	—
24	Printers and pressmen and plate printers.....	1	—	—	—	2	—	2	—	62	—
25	Radio repairmen.....	1	—	—	—	6	—	2	—	188	2
26	Sawyers (wood).....	—	—	—	—	2	—	1	—	5	—
27	Sheet metal workers and tinsmiths.....	—	—	—	—	3	—	3	—	79	—
28	Shoemakers and shoe repairers.....	—	—	—	—	20	—	9	—	145	—
29	Spinners and weavers.....	—	—	—	—	4	10	1	—	27	32
30	Stationary engineers.....	—	—	—	—	4	—	3	—	65	—
31	Stonemasons and dressers.....	—	—	—	—	—	—	—	—	10	—
32	Tailors.....	—	—	—	—	17	2	—	—	303	44
33	Tanners.....	1	—	—	—	—	—	7	—	6	—
34	Toolmakers, diemakers and setters.....	2	—	1	—	10	—	8	—	219	—
35	Upholsters.....	—	—	—	—	2	—	5	—	39	1
36	Welders and flame cutters.....	—	—	—	—	9	—	9	—	244	2
37	Other workers in food products.....	1	—	—	—	5	—	1	1	66	10
38	Other workers in rubber products.....	—	—	—	—	—	—	—	—	20	—
39	Other workers in leather and leather products.....	—	2	—	—	2	1	1	—	26	7
40	Other workers in textiles.....	—	—	—	—	3	4	5	1	116	49
41	Other workers in clothing and textile goods.....	1	—	—	—	4	6	1	3	56	160
42	Other workers in wood products.....	—	—	—	—	2	1	3	—	54	1
43	Workers in pulp, paper and paper products.....	—	—	—	—	—	—	2	—	13	—
44	Other workers in printing and publishing.....	—	—	—	—	1	—	1	—	24	12
45	Other metal workers.....	1	—	—	—	3	—	2	—	145	—
46	Other workers in non-metallic mineral products.....	—	—	—	—	—	—	5	—	38	—
47	Other manufacturing and mechanical workers.....	2	2	1	—	15	13	11	11	532	128
48	Other construction workers.....	2	—	—	—	7	—	4	—	142	—
49	Labourers (other than agricultural, fishing, logging and mining).....	5	—	8	1	141	4	56	2	5,471	101
50	Not Stated.....	—	—	—	1	10	3	3	—	122	34
	Totals, Workers.....	141	132	43	14	1,057	452	651	167	24,164	8,056
	Dependants—										
51	Wives.....	—	88	—	31	—	506	—	343	—	9,181
52	Children.....	59	54	20	20	343	334	231	227	6,008	5,741
53	Others.....	6	15	4	2	47	50	24	31	769	1,154
	Totals, Immigrants.....	206	289	67	67	1,447	1,342	906	768	30,941	24,132

8.—Intended Destination and Occupation of Immigrants Admitted to Canada 1957—concl.

Intended Destination												Canada			No.
Ont.		Man.		Sask.		Alta.		B.C.		Yukon and N.W.T.		M.	F.	Total	
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.				
No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	
2,260	—	190	—	57	—	413	—	849	—	3	—	4,434	—	4,434	
174	—	16	—	4	—	18	—	45	—	—	—	305	—	305	
202	—	22	—	4	—	37	—	64	—	—	—	384	—	384	
14	—	1	—	—	—	1	—	6	—	—	—	23	—	23	
24	713	5	81	2	21	2	60	4	127	—	2	49	1,676	1,725	
1,647	—	180	—	69	—	286	—	515	—	8	—	3,432	—	3,432	
68	—	1	—	—	—	9	—	12	—	—	—	105	—	105	
53	22	10	1	1	1	8	1	10	3	—	—	157	45	202	
4	3	1	—	—	—	—	—	2	—	—	—	12	—	12	
161	12	13	—	2	—	21	1	43	—	—	—	345	17	362	
5	—	2	—	—	—	—	—	—	—	—	—	8	—	8	
1,290	25	135	1	28	—	136	5	241	2	—	—	2,252	38	2,290	
1,085	51	109	1	29	1	155	6	287	6	4	—	1,984	76	2,060	
1,490	—	180	—	54	—	253	—	450	—	3	—	3,322	—	3,322	
1,891	20	167	—	47	1	233	1	417	5	6	—	3,357	32	3,389	
5	14	—	1	—	2	1	—	1	5	—	—	9	32	41	
43	—	1	—	—	—	4	—	12	—	—	—	66	—	66	
244	1	12	—	5	—	21	—	38	—	—	—	386	1	387	
1,122	—	115	—	31	—	184	—	314	—	1	—	2,084	—	2,084	
111	—	8	—	—	—	3	—	25	—	—	—	169	—	169	
27	—	2	—	—	—	3	—	8	—	—	—	49	—	49	
225	—	7	—	1	—	27	—	55	—	—	—	364	—	364	
732	—	72	—	23	—	149	—	264	—	1	—	1,449	—	1,449	
219	—	20	—	2	—	13	—	52	—	—	—	373	—	373	
321	8	15	—	5	—	35	—	64	—	—	—	637	10	647	
25	—	1	—	1	—	4	—	18	—	—	—	57	—	57	
401	—	32	—	2	—	30	—	90	—	—	—	640	—	640	
280	—	40	—	13	—	53	—	70	—	—	—	630	—	630	
82	77	5	20	—	5	12	15	22	18	—	—	153	177	330	
220	—	16	—	4	—	20	—	54	—	1	—	387	—	387	
13	—	2	—	2	—	—	—	1	—	—	—	28	—	28	
454	97	103	8	9	2	53	8	69	23	—	1	1,015	185	1,200	
7	—	3	—	2	—	1	—	4	—	—	—	24	—	24	
1,183	—	58	—	13	—	54	—	156	—	—	—	1,704	—	1,704	
218	9	32	1	7	1	34	2	41	3	—	—	378	17	395	
864	3	98	—	25	—	173	1	278	2	—	—	1,700	8	1,708	
175	21	34	—	8	—	26	3	44	4	—	—	360	39	399	
53	4	4	—	1	—	5	—	8	—	—	—	91	4	95	
64	18	6	3	—	—	14	1	7	7	—	—	120	39	159	
169	111	8	8	4	7	15	10	31	20	—	—	351	210	561	
115	408	6	28	—	8	6	19	11	42	—	—	200	674	874	
268	10	22	—	2	—	29	1	93	4	—	—	473	17	490	
43	8	1	—	1	—	5	—	33	—	—	—	98	8	106	
118	75	10	5	3	—	11	7	33	9	—	—	201	108	309	
562	5	27	1	6	—	58	—	141	1	1	—	946	7	953	
141	6	7	—	1	—	28	1	30	2	1	—	251	9	260	
1,602	594	70	39	33	5	176	64	406	86	—	—	2,848	942	3,790	
454	—	25	—	11	—	64	—	152	—	2	—	863	—	863	
8,597	208	847	20	238	11	1,442	33	2,244	43	9	—	19,048	423	19,471	
228	53	15	3	10	2	49	10	105	12	1	—	543	118	661	
57,029	19,519	5,328	1,153	1,941	479	9,115	1,873	15,783	4,314	80	29	115,332	36,179	151,511	
—	28,530	—	2,067	—	812	—	3,998	—	6,936	—	41	—	52,533	52,533	
19,798	18,690	1,532	1,337	623	460	2,977	2,754	5,021	4,390	27	27	36,639	34,034	70,673	
805	2,726	61	136	24	88	94	320	420	664	1	6	2,255	5,192	7,447	
77,632	69,465	6,921	4,693	2,588	1,839	12,186	8,945	21,224	16,304	108	94	154,226	127,938	282,164	

Deportations.—Persons unable to meet the requirements of the Immigration Act and Regulations may be refused admission to Canada upon applying at ports of entry, and certain classes not considered suited to the Canadian way of life may be deported. Regulations covering rejections and deportations are given in the 1957-58 Year Book, pp. 173-174.

9.—Refusals and Deportations, by Cause and Nationality, 1955-57

NOTE.—Figures from 1903 are given in the corresponding table of previous Year Books.

REFUSALS				DEPORTATIONS AFTER ADMISSION ¹			
Cause and Nationality	1955	1956	1957	Cause and Nationality	1955	1956	1957
	No.	No.	No.		No.	No.	No.
From Overseas—							
CAUSE				CAUSE			
Mental and medical.....	60	11	4	Mental and medical.....	125	91	55
Civil.....	123	103	67	Public charges.....	23	21	13
NATIONALITY				Criminality.....	192	164	145
British.....	119	82	20	Misrepresentation and stealth.....	282	249	262
Other.....	64	32	51	Other causes.....	81	79	34
Totals from Overseas.....	183	114	71	NATIONALITY			
From United States.....	1,751	1,353	768	British.....	227	212	155
Grand Totals, Refusals.....	1,934	1,467	839	United States.....	124	123	98
				Other.....	352	269	256
				Grand Totals, Deportations....	703	604	509

¹ Includes deserting seamen deported.

Returning Canadians.—The number of Canadians who returned to Canada during the years 1950 to 1957 after having resided in the United States were as follows: 1950, 3,518; 1951, 3,635; 1952, 4,707; 1953, 4,606; 1954, 4,516; 1955, 3,942; 1956, 4,740; and 1957, 5,426.

Section 3.—Emigration Statistics

Emigration from Canada is an important factor tending to offset to some extent both present and past immigration activities. The movement to the United States of native-born Canadians as well as of Europeans who originally migrated to Canada attained considerable proportions at certain periods. The figures of Table 10, showing the numbers of persons entering the United States from Canada during the years 1948-57 were obtained from the Immigration and Naturalization Service of the United States Department of Justice. No Canadian statistics on emigration are available.

10.—Persons Entering the United States from Canada, Years Ended June 30, 1948-57

SOURCE: Immigration and Naturalization Service, United States Department of Justice.

Year	Number	Year	Number
1948 ¹	24,788	1953.....	36,283
1949.....	25,156	1954.....	34,873
1950.....	21,885	1955.....	32,435
1951.....	25,880	1956.....	42,363
1952.....	33,354	1957.....	46,354

¹ Newfoundland not included.

PART II.—CANADIAN CITIZENSHIP*

Naturalization procedures and events leading to the passing of the Canadian Citizenship Act are given in the 1951 Year Book, pp. 153-155.

Section 1.—The Canadian Citizenship Act

The Canadian Citizenship Act came into force on Jan. 1, 1947, its purpose being to give a clear definition of Canadian citizenship and provide an underlying community of status for all the people of Canada. Since Jan. 18, 1950, the administration of Canadian citizenship has been the responsibility of the Department of Citizenship and Immigration. The provisions of the Act and its several amendments are outlined in some detail in the 1955 Year Book, pp. 177-181. More briefly, they are given in the following paragraphs.

Natural-Born Canadian Citizens, Born before Jan. 1, 1947.—The Act defines the two categories of a natural-born Canadian citizen as (1) a person born in Canada or on a Canadian ship or aircraft; (2) a person born outside of Canada before Jan. 1, 1947, if the responsible parent (the father or, where the father is deceased or where the child is born out of wedlock, the mother) is a Canadian citizen, if he was, on Jan 1, 1947, either a minor or had, prior to that date, been lawfully admitted to Canada for permanent residence and had not, before that date, acquired the citizenship or nationality of another country.

The Act provides that a person in the second category will cease to be a Canadian citizen on attaining the age of 21 years or on Jan. 1, 1954, whichever is the later date, unless he has his place of domicile in Canada at such date or has, before such date and after reaching the age of 21 years, filed a declaration of retention of Canadian citizenship.

Natural-Born Canadian Citizens, Born after Dec. 31, 1946.—A person born outside of Canada subsequent to that date, whose responsible parent is considered a Canadian citizen pursuant to the terms of the Canadian Citizenship Act, is a Canadian if his birth is registered with the Registrar of Canadian Citizenship within two years of its occurrence or within such extended period as the Minister may authorize in special cases.

The person who becomes a Canadian citizen in such manner automatically ceases to be a Canadian citizen on reaching the age of 24 years unless he complies with the requirements as set out for a person born outside of Canada before Jan. 1, 1947, who was still a minor on that date.

Canadian Citizens other than Natural Born.—Before the 1953 amendments to the Citizenship Act the only persons who acquired Canadian citizenship on Jan. 1, 1947, through the transitional clauses of Sect. 9 were persons who were naturalized in Canada before that date, British subjects who had Canadian domicile at the commencement of the Act and women lawfully admitted to Canada and married prior to Jan 1, 1947, whose husbands would have qualified as Canadian citizens if the Act had come into force before the date of marriage. Sect. 9 was amended on June 1, 1953, so that a British subject who had his place of domicile in Canada for at least 20 years immediately before Jan. 1, 1947, need not comply with the requirements of Canadian domicile provided he was not under an order of deportation on Jan. 1, 1947.

Status of Married Women.—Since the commencement of the Canadian Citizenship Act a Canadian woman does not lose Canadian citizenship upon marriage to a non-Canadian and a non-Canadian woman does not become a Canadian citizen upon marriage to a

* Prepared in the Citizenship Registration Branch under the direction of Laval Fortier, Deputy Minister, Department of Citizenship and Immigration, Ottawa.

Canadian citizen. However, a Canadian woman who marries a non-Canadian whose country of allegiance considers her to have acquired its nationality upon marriage may file a Declaration of Renunciation of Canadian citizenship if she wishes to divest herself of her Canadian citizenship. A non-Canadian woman who marries a Canadian citizen must apply to the court for a certificate of citizenship. If she is a citizen of another Commonwealth country she may apply direct to the Minister. The one concession as to the qualifications applicable in both instances is a residence of only one year in Canada rather than the prescribed five years of Canadian domicile.

A Canadian woman who married a non-Canadian prior to Jan. 1, 1947, and ceased to be a British subject may regain her status and be readmitted to Canadian citizenship upon application therefor, whether or not she is a resident of Canada.

Status of Minor Children.—The minor child of a Canadian citizen other than a natural-born Canadian may receive a certificate of Canadian citizenship upon application therefor by his or her responsible parent, the *de facto* guardian, or the mother if she has custody of the child. Provision is also made in the Citizenship Act for the granting of a certificate of citizenship to a minor child in special circumstances, e.g., to a child whose responsible parent is not a Canadian citizen but who has been admitted to Canada for permanent residence. Provision is made for the granting of a certificate to a person who has been adopted or legitimized and who has been admitted to Canada for permanent residence, if the adopter or the legally recognized father is a Canadian citizen.

Loss of Canadian Citizenship.—Canadian citizenship may be lost as follows:—

- (1) A Canadian citizen who when outside of Canada and not under disability (minor, lunatic or idiot) acquires by a voluntary and formal act other than marriage the nationality or citizenship of a country other than Canada. This does not apply if that country is at war with Canada at the time of acquisition but in such a case the Minister may order that he cease to be a Canadian citizen. The purpose of this is to hold the person, if deemed necessary, to his obligations as a Canadian.
- (2) A Canadian citizen who under the law of another country is a national or citizen of such country and who serves in the armed forces of such country when it is at war with Canada. This does not apply if the Canadian citizen became a national or citizen of such country when it was at war with Canada.
- (3) A Canadian citizen, other than natural born or one who has served in the Armed Forces of Canada in time of war, or other related circumstances, who resides outside of Canada for ten consecutive years without maintaining substantial connection with Canada, loses his citizenship automatically, but the period of absence may upon application be extended beyond the ten years for good and sufficient cause.

Loss of Citizenship by Revocation—Applicable Only to Naturalized Persons.—The citizenship of a Canadian citizen other than a natural-born Canadian citizen may be revoked by the Governor in Council for such reasons as trading or communicating with an enemy country during time of war; disaffection or disloyalty while out of Canada or conviction by a court of competent jurisdiction of any offence involving disaffection or disloyalty while in Canada; obtaining a certificate of naturalization or Canadian citizenship by false representation or fraud; residence outside of Canada for not less than six years (without maintenance of substantial connection) since becoming a Canadian citizen or being naturalized in Canada; residence for not less than two years (without maintenance of substantial connection) in a foreign country of which he was a national or citizen at any time prior to his becoming a Canadian citizen or being naturalized in Canada.

Loss of Citizenship by Revocation—Applicable to Both Natural-Born and Naturalized Persons.—The Governor in Council may in his discretion order that any person shall cease to be a Canadian citizen if, upon a report from the Minister of Citizenship and Immigration,

he is satisfied that such person has, when not under a disability (1) acquired voluntarily the citizenship of a foreign country (other than by marriage), (2) taken or made an oath, affirmation, or other declaration of allegiance to a foreign country, or (3) made a declaration renouncing his Canadian citizenship.

Section 2.—Canadian Citizenship Statistics

Data on countries of allegiance and origins of the population were not collected at the 1956 Census so that the latest information available is that for the 1951 Census. Results of that census show that 96.9 p.c. of the people of Canada were Canadian citizens; that 0.7 p.c. were citizens of other Commonwealth countries; 1.7 p.c. of European countries; 0.1 p.c. of Asiatic countries; 0.5 p.c. of the United States; and 0.1 p.c. of other countries. Table 1, classifying the 1951 population by country of allegiance and origin, shows that 98.0 p.c. of the persons of British Isles origins and 99.7 p.c. of those of French origin owed allegiance to Canada. Corresponding percentages for other European and Asiatic origins were 89.3 p.c. and 78.7 p.c., respectively.

1.—Population by Country of Allegiance and Origin 1951

Origin	Country of Allegiance					Total
	Canada	Other Commonwealth Countries	United States	European Countries	Other Countries ¹	
	No.	No.	No.	No.	No.	No.
British Isles ²	6,577,849	95,567	34,229	1,524	516	6,709,685
French.....	4,304,972	763	8,370	4,896	166	4,319,167
Other European.....	2,279,704	6,609	22,025	229,311	16,073	2,553,722
German.....	586,597	631	8,203	21,739	2,825	619,995
Italian.....	126,767	1,640	878	22,712	248	152,245
Jewish.....	161,968	1,475	2,811	12,305	3,111	181,670
Netherlands.....	227,552	312	2,327	33,032	1,044	264,267
Polish.....	179,960	661	845	36,890	1,489	219,845
Russian.....	83,643	181	459	6,451	545	91,279
Scandinavian ³	268,904	311	4,218	9,426	165	283,024
Ukrainian.....	366,160	225	305	25,069	3,284	395,043
Other.....	278,153	1,173	1,979	61,687	3,362	346,354
Asiatic.....	57,325	417	220	104	14,761	72,827
Native Indian and Eskimo.....	165,359	45	169	17	17	165,607
Other and not stated.....	182,730	670	3,987	638	396	188,421
Totals, All Origins.....	13,567,939	104,071	69,000	236,490	31,929	14,009,429

¹ Includes persons reported as "stateless".

² Includes English, Irish, Scottish, Welsh and Manx.

³ Includes Danish, Icelandic, Norwegian and Swedish.

Citizenship Certificates Issued.—In 1957, 141,915 Canadian Citizenship Certificates were issued as compared with 79,971 in 1956. During 1957, the Canadian Citizenship Registration Branch recorded 4,422 certificates of registration of births abroad, 751 declarations of intention, 152 declarations of retention of Canadian citizenship and 11 petitions for resumption of Canadian citizenship. Certificates issued free to persons who had

had active military service numbered 691. Corresponding figures for 1956 were 3,868 registrations of births abroad, 1,176 declarations of intention, 116 declarations of retention, one petition for resumption and 201 certificates issued free to persons who had had active military service.

2.—Citizenship Certificates Issued, by Status of Recipient, 1955-57

Section of 1947 Act	Classification	1955	1956	1957
		No.	No.	No.
Sect. 34 (1) (i)	Certificates of Proof of Status—			
	Canadian citizens by birth.....	1,562	1,206	1,258
	By naturalization under former Acts.....	2,873	2,147	2,515
	British subjects with 5 years domicile before Jan. 1, 1947.....	1,337	1,243	1,312
	Women, through marriage.....	540	437	466
Sect. 10 (2)	British subjects with 5 years domicile after Jan. 1, 1947.....	3,252	5,023	7,266
Sect. 10 (1)	Aliens.....	48,188	42,028	73,571
Sect. 10 (5)	Minors whose parents have been granted Certificates.....	6,605	7,762	13,912
Sect. 11 (3)	Minors under special circumstances.....	90	101	85
Sect. 10 (3)	Women who regained lost Canadian citizenship through marriage....	373	296	321
Sect. 10 (4)	Canadians who regained lost status by naturalization outside Canada..	147	104	137
Sect. 11 (1)	Doubtful cases who now have been awarded Certificates.....	6	8	8
Sect. 11 (2)	Adopted and legitimated persons.....	60	88	170
	Replacement Certificates.....	943	1,078	1,312
	Miniature certificates of citizenship (issued since Oct. 18, 1955, to Canadian citizens).....	7,402	18,450	39,582
	Totals.....	73,378	79,971	141,915

Characteristics of Persons Granted Citizenship Certificates in 1957.—Comparable detailed statistics showing the characteristics of persons granted citizenship certificates are available since 1953; such characteristics include age, marital status, occupation, period of immigration, residence and previous nationality.

Of the 95,462 persons granted citizenship in 1957 only 1 p.c. had immigrated to Canada before 1921, 3 p.c. from 1921 to 1940, 24 p.c. in the period 1941 to 1950 and 71 p.c. since 1950. Regionally these new citizens were distributed as follows: 1 p.c. in the Atlantic Provinces, 19 p.c. in Quebec, 58 p.c. in Ontario, 11 p.c. in the Prairie Provinces and 11 p.c. in British Columbia. Just over 95 p.c. of them resided in urban centres.

Almost 15 p.c. of the persons naturalized during 1957 had been citizens of Italy; 13 p.c. had been citizens of Germany; over 12 p.c. reported former allegiance to countries now parts of the U.S.S.R.; Poland was country of allegiance for just under 11 p.c.; 9 p.c. owed allegiance to a British Commonwealth country; and 9 p.c. to the Netherlands. Only 5 p.c. reported themselves as stateless when applying for Canadian citizenship; these persons had been born mainly in Poland, the U.S.S.R., Yugoslavia, Hungary, Czechoslovakia and Austria.

Of the males granted citizenship certificates in 1957, 26 p.c. were employed in manufacturing and mechanical occupations, 12 p.c. were employed in construction, 11 p.c. were labourers in other than primary industries, 8 p.c. were in professional occupations, 8 p.c. in service, 4 p.c. in agriculture and 4 p.c. in proprietary and managerial occupations. Of the females granted certificates, 54 p.c. were homemakers. Among those employed outside the home, 31 p.c. were in manufacturing and mechanical occupations, 26 p.c. in clerical jobs and 24 p.c. in service occupations.

3.—Persons Granted Citizenship Certificates in 1957, by Period of Immigration to Canada and by Province of Residence

Residence	Period of Immigration					Born in Canada ¹	Total
	Before 1921	1921-1930	1931-1940	1941-1950	1951-1957		
	No.	No.	No.	No.	No.	No.	No.
Residing in Canada.....	1,246	2,196	832	23,086	67,723	173	95,256
Newfoundland.....	2	2	3	26	96	—	129
Prince Edward Island.....	1	—	1	13	22	—	37
Nova Scotia.....	15	15	8	147	317	4	506
New Brunswick.....	7	8	6	85	141	2	249
Quebec.....	160	379	127	3,099	14,419	22	18,206
Ontario.....	318	740	335	13,760	40,156	47	55,356
Manitoba.....	91	188	54	1,265	1,486	19	3,103
Saskatchewan.....	112	196	38	474	754	4	1,578
Alberta.....	245	363	156	1,910	3,149	50	5,873
British Columbia.....	294	295	100	2,273	7,029	25	10,016
Yukon and N.W.T.....	1	10	4	34	154	—	203
Residing outside Canada.....	—	—	4	48	121	33	206
Totals Naturalized.....	1,246	2,196	836	23,134	67,844	206	95,462

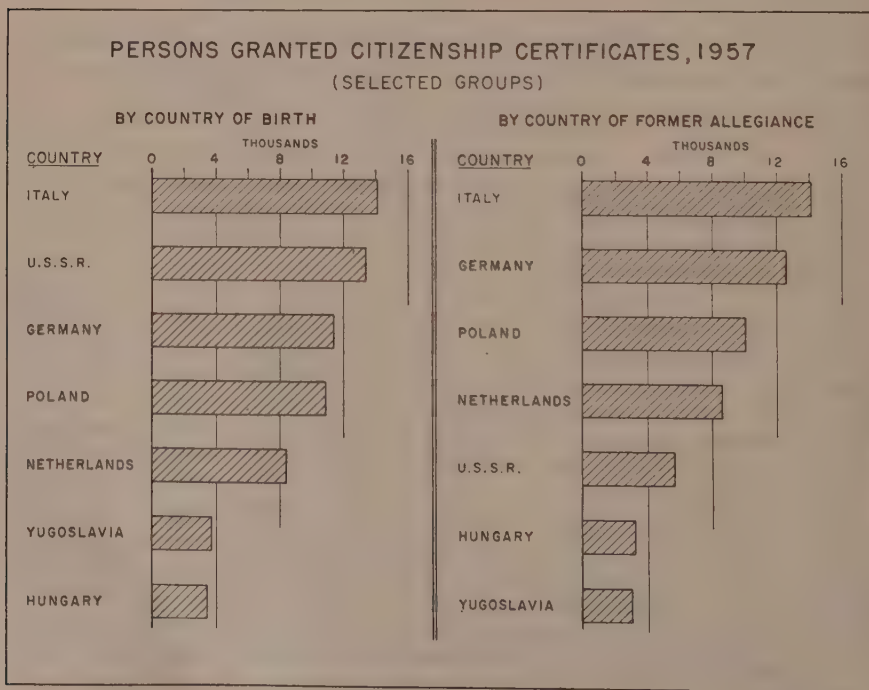
¹ Canadian born who lost their citizenship by marriage; this applies to females only.

4.—Persons Granted Citizenship Certificates in 1956 and 1957, by Age Group and Sex

Age Group	1956			1957		
	Males	Females	Total	Males	Females	Total
	No.	No.	No.	No.	No.	No.
0 - 4 Years.....	18	24	42	40	32	72
5 - 9 ".....	1,281	1,212	2,493	2,297	2,222	4,519
10 - 14 ".....	1,303	1,168	2,471	2,547	2,355	4,902
15 - 19 ".....	1,315	1,081	2,396	2,083	1,857	3,940
20 - 24 ".....	2,357	1,435	3,792	3,940	2,328	6,268
25 - 29 ".....	4,376	2,792	7,168	9,624	4,393	14,017
30 - 34 ".....	6,345	4,157	10,502	11,658	6,857	18,515
35 - 39 ".....	4,530	2,577	7,107	8,452	4,819	13,271
40 - 44 ".....	3,919	2,250	6,169	6,443	3,507	9,950
45 - 49 ".....	2,944	1,959	4,903	5,149	2,982	8,131
50 - 54 ".....	1,890	1,554	3,444	3,003	2,160	5,163
55 - 59 ".....	1,267	1,110	2,377	1,789	1,456	3,245
60 - 64 ".....	749	557	1,306	968	784	1,752
65 - 69 ".....	444	308	752	553	463	1,016
70 - 74 ".....	195	132	327	255	217	472
75+ ".....	93	62	155	134	95	229
Totals, All Ages.....	33,026	22,378	55,404	58,935	36,527	95,462

5.—Persons Granted Citizenship Certificates in 1956 and 1957, by Sex and Occupation

Occupation	1956			1957		
	Males	Females	Total	Males	Females	Total
	No.	No.	No.	No.	No.	No.
Proprietary and managerial.....	1,652	178	1,830	2,594	291	2,885
Professional.....	2,490	634	3,124	4,948	1,075	6,023
Clerical.....	1,044	1,481	2,525	1,827	2,549	4,376
Transportation and communication.....	1,212	34	1,246	2,171	40	2,211
Commercial and financial.....	1,088	306	1,394	1,751	426	2,177
Service.....	2,160	1,433	3,593	4,480	2,328	6,808
Agricultural.....	1,931	31	1,962	2,534	44	2,578
Fishing, trapping, logging.....	221	—	221	422	—	422
Mining.....	715	—	715	1,312	2	1,314
Manufacturing and mechanical.....	8,345	1,904	10,249	15,187	3,020	18,207
Construction.....	3,295	8	3,303	6,784	12	6,796
Labourers, not in primary industries.....	3,874	17	3,891	6,417	37	6,454
Homemakers.....	—	12,603	12,603	—	19,824	19,824
No occupation (including students, retired, etc.).....	628	153	781	939	225	1,164
Children under 14 years of age.....	2,450	2,253	4,703	4,499	4,250	8,749
Not stated ¹	1,921	1,343	3,264	3,070	2,404	5,474
Totals, All Occupations.....	33,026	22,378	55,404	58,935	36,527	95,462

¹ Mainly children over 14 years of age.

6.—Persons Granted Citizenship Certificates in 1956 and 1957, by Sex and Country of Birth

Country of Birth	1956			1957		
	Males	Females	Total	Males	Females	Total
	No.	No.	No.	No.	No.	No.
Albania.....	19	2	21	32	5	37
Algeria.....	1	—	1	8	2	10
Argentina.....	8	5	13	22	8	30
Australia.....	33	26	59	32	22	54
Austria.....	501	472	973	1,539	1,059	2,598
Belgium.....	331	291	622	755	649	1,404
Brazil.....	9	7	16	19	10	29
British Guiana.....	22	13	35	25	30	55
Bulgaria.....	103	24	127	154	40	194
Burma.....	4	3	7	11	9	20
Canada.....	39	295	334	52	311	363
China.....	1,229	557	1,786	1,601	768	2,369
Cuba.....	6	4	10	4	5	9
Cyprus.....	3	—	3	20	6	26
Czechoslovakia.....	1,362	870	2,232	1,853	1,039	2,892
Danzig.....	11	9	20	25	17	42
Denmark.....	424	192	616	889	439	1,328
Egypt.....	18	13	31	76	40	116
Finland.....	160	177	337	606	493	1,099
France.....	362	231	593	1,075	632	1,707
Germany.....	1,387	1,558	2,945	6,630	4,764	11,394
Greece.....	567	253	820	1,179	550	1,729
Hong Kong.....	19	13	32	9	17	26
Hungary.....	1,503	1,009	2,512	2,151	1,348	3,499
Iceland.....	3	2	5	9	7	16
India.....	93	57	150	150	91	241
Indonesia.....	22	15	37	68	43	111
Iran.....	1	4	5	10	9	19
Iraq.....	11	4	15	33	24	57
Ireland (Republic of).....	195	116	311	229	119	348
Israel.....	15	19	34	119	128	247
Italy.....	4,559	1,712	6,271	10,696	3,359	14,055
Japan.....	55	85	140	53	77	130
Lebanon.....	37	37	74	113	63	176
Luxembourg.....	6	2	8	16	11	27
Malta.....	62	16	78	64	14	78
Mexico.....	4	4	8	9	7	16
Netherlands.....	2,450	1,682	4,132	4,833	3,614	8,447
Netherlands East Indies.....	12	9	21	12	11	23
New Zealand.....	14	8	22	10	3	13
Norway.....	112	66	178	266	138	404
Palestine.....	12	8	20	25	16	41
Paraguay.....	—	—	—	11	4	15
Poland.....	5,378	3,585	8,963	6,610	4,295	10,905
Portugal.....	1	3	4	18	8	26
Romania.....	758	542	1,300	1,343	995	2,338
South Africa.....	21	18	39	27	21	48
Spain.....	16	13	29	145	58	203
Sweden.....	139	80	219	226	181	407
Switzerland.....	196	100	296	450	206	656
Syria.....	10	5	15	12	13	25
Tunisia.....	3	1	4	15	2	17
Turkey.....	25	32	57	83	39	122
United Kingdom.....	2,577	1,875	4,452	3,824	3,030	6,854
United States.....	379	194	573	491	240	731
Venezuela.....	2	2	4	4	7	11
Union of Soviet Socialist Republics.....	6,195	5,010	11,205	7,656	5,830	13,486
West Indies.....	97	63	160	125	106	231
Yugoslavia.....	1,395	923	2,318	2,328	1,409	3,737
Other.....	50	62	112	85	86	171
Totals, All Countries.....	33,026	22,378	55,404	58,935	36,527	95,462
Commonwealth.....	3,009	2,404	5,413	4,368	3,678	8,046
Other Europe.....	28,133	18,924	47,057	51,714	31,266	82,980
Other Asia.....	1,439	783	2,222	2,151	1,212	3,363
United States.....	379	194	573	491	240	731
Other.....	66	73	139	211	131	342

7.—Persons Granted Citizenship Certificates in 1956 and 1957, by Country of Former Allegiance

Country of Former Allegiance	1956	1957	Country of Former Allegiance	1956	1957	Country of Former Allegiance	1956	1957
	No.	No.		No.	No.		No.	No.
British countries...	5,812	8,650	Iceland.....	5	16	Romania.....	933	1,588
Albania.....	19	34	Iran.....	4	22	Spain.....	26	210
Argentina.....	3	11	Iraq.....	10	52	Sweden.....	133	253
Austria.....	600	2,250	Ireland.....			Switzerland.....	291	653
Belgium.....	545	1,064	(Republic of)....	11	11	Syria.....	16	29
Brazil.....	11	11	Israel.....	23	260	Turkey.....	16	37
Bulgaria.....	102	186	Italy.....	6,271	14,112	United States....	722	879
China.....	1,709	2,160	Japan.....	140	121	Union of Soviet So-		
Czechoslovakia...	1,610	2,271	Latvia.....	1,627	2,243	cialist Republics..	3,204	5,752
Danzig.....	6	10	Lebanon.....	71	174	Yugoslavia.....	1,653	2,961
Denmark.....	628	1,352	Lithuania.....	1,377	1,568	Other.....	36	53
Egypt.....	6	33	Luxembourg.....	7	18	Stateless.....	8,181	4,574
Estonia.....	1,768	2,378	Mexico.....	6	12			
Finland.....	333	1,081	Netherlands.....	4,199	8,645			
France.....	537	1,527	Norway.....	179	408			
Germany.....	2,433	12,629	Palestine.....	15	4			
Greece.....	810	1,797	Poland.....	7,380	10,081			
Hungary.....	1,880	3,242	Portugal.....	6	40			
						Totals, All Countries.....	55,404	95,462

CHAPTER V.—VITAL STATISTICS*

CONSPECTUS

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NOTE.—The interpretation of the symbols used in the tables throughout the Year Book will be found facing p. 1 of this volume.

Vital statistics provide a record of community and national development—a measurement of the pace of population growth, the number and distribution of people coming into the various age groups, the relative importance of each of the various causes of death, and population trends generally. This Chapter, moreover, attempts to provide a comparison of principal Canadian vital statistics rates with those of other countries and to present tables on marriages and deaths as well as detailed life tables for males and females. Births and deaths are classified by place of residence (births according to the residence of the mother) and marriages by place of occurrence.

The continuity of vital statistics provides a constant guide to the planning, operation and evaluation of a variety of national activities, notably in public health, education, community planning, and various types of business enterprise. The data are presented so as to be useful for the general reader as well as for students of demography, public health, sociology and other specialized fields. The population data upon which the rates shown in this Chapter are computed are contained in Chapter III (Population) and in the several DBS reports relating to census and intercensal estimates of population. In making both international and interprovincial comparisons of birth, death and marriage rates, it is important to note that part of the differences observed over a period of years as between different countries, provinces or local areas may be caused by differences in the sex and age distribution of the populations involved. Similarly, changes in the rates may be caused partly by changes in this distribution.

The history of the collection of vital statistics in Canada is covered in the 1948-49 edition of the Year Book, pp. 185-188. In addition to the information provided in *Vital Statistics* (Preliminary Report), *Vital Statistics of Canada* and other regular and special reports, certain unpublished data are available on request.

Section 1.—Summary of Vital Statistics

Table 1 gives a summary of the principal vital statistics of the provinces of Canada from 1931 to 1957 and Table 2 shows certain vital statistics for urban centres having at least 10,000 population at the date of the 1956 Census. Data for 1921—when the collection of national statistics was initiated—to 1930 are shown in previous issues of the Canada Year Book.

* Revised in the Vital Statistics Section, Health and Welfare Division, Dominion Bureau of Statistics.

1.—Summary of Principal Vital Statistics, by Province, 1931-57

NOTE.—Figures for the years 1921, when the collection of national statistics was initiated, to 1930 are given in previous editions of the Year Book.

Province and Year	Live Births		Deaths		Natural Increase		Infant Mortality ¹		Maternal Mortality		Marriages	
	No.	Rate ²	No.	Rate ²	No.	Rate ²	No.	Rate ³	No.	Rate ³	No.	Rate ³
Newfoundland—												
Av. 1931-35.....	6,686	23.4	3,642	12.8	3,044	10.6	782	117	34	5.0	1,708	6.0
" 1936-40.....	7,638	25.8	3,681	12.4	3,957	13.4	754	99	40	5.3	2,208	7.5
" 1941-45.....	9,292	29.8	3,681	11.8	5,611	18.0	852	92	39	4.2	2,967	9.5
" 1946-50.....	12,352	36.2	3,179	9.3	9,173	26.9	754	61	25	2.0	2,711	8.0
" 1951-55.....	13,101	34.1	2,926	7.6	10,175	26.5	598	46	24	1.8	2,836	7.4
1956.....	14,541	35.0	3,058	7.4	11,483	27.6	630	43	23	1.6	3,073	7.4
1957.....	15,315	36.0	3,198	7.5	12,117	28.5	604	39	20	1.3	3,041	7.1
P. E. Island—												
Av. 1931-35.....	1,961	21.8	1,001	11.1	960	10.7	131	67	10	5.1	496	5.5
" 1936-40.....	2,054	21.9	1,080	11.5	974	10.4	142	69	10	4.9	623	6.6
" 1941-45.....	2,180	23.7	964	10.5	1,216	13.2	114	52	9	3.9	686	7.5
" 1946-50.....	2,869	30.5	922	9.8	1,947	20.7	114	40	4	1.3	677	7.2
" 1951-55.....	2,720	27.2	923	9.2	1,797	18.0	88	32	2	0.8	623	6.2
1956.....	2,657	26.8	933	9.4	1,724	17.4	105	40	1	0.4	649	6.6
1957.....	2,676	27.0	916	9.3	1,760	17.7	75	28	2	0.7	627	6.3
Nova Scotia—												
Av. 1931-35.....	11,486	21.9	6,073	11.6	5,414	10.3	840	73	59	5.1	3,522	6.7
" 1936-40.....	12,060	21.7	6,126	11.0	5,934	10.7	782	65	48	4.0	4,796	8.6
" 1941-45.....	15,146	25.2	6,326	10.5	8,820	14.7	870	57	41	2.7	6,302	10.5
" 1946-50.....	17,994	28.9	6,042	9.7	11,952	19.2	760	42	22	1.2	5,525	8.9
" 1951-55.....	18,246	27.5	5,802	8.8	12,444	18.7	586	32	13	0.7	5,283	8.0
1956.....	19,106	27.5	5,738	8.3	13,368	19.2	554	29	6	0.3	5,543	8.0
1957.....	19,316	27.5	5,797	8.5	13,339	19.0	526	27	13	0.7	5,206	7.4
New Brunswick—												
Av. 1931-35.....	10,440	24.9	4,710	11.3	5,730	13.6	857	82	57	5.5	2,737	6.5
" 1936-40.....	11,105	25.1	5,040	11.4	6,065	13.7	913	82	54	4.9	3,801	8.6
" 1941-45.....	13,037	28.2	5,050	10.9	7,987	17.3	960	74	42	3.2	4,433	9.6
" 1946-50.....	16,878	34.0	4,886	9.8	11,992	24.2	1,015	60	23	1.4	4,864	9.8
" 1951-55.....	16,496	31.0	4,576	8.6	11,920	22.4	717	43	16	0.9	4,306	8.1
1956.....	16,573	29.9	4,658	8.4	11,915	21.5	656	40	9	0.5	4,591	8.3
1957.....	17,020	30.1	4,595	8.1	12,425	22.0	589	35	5	0.3	4,284	7.6
Quebec—												
Av. 1931-35.....	78,888	26.6	32,796	11.0	46,092	15.6	7,757	98	405	5.1	17,089	5.8
" 1936-40.....	78,509	24.6	33,221	10.4	45,288	14.2	6,470	82	400	5.1	27,111	8.5
" 1941-45.....	97,906	28.4	34,273	9.9	63,633	18.5	6,690	68	318	3.2	33,126	9.6
" 1946-50.....	115,496	30.4	33,723	8.9	81,773	21.5	6,205	54	227	2.0	34,874	9.2
" 1951-55.....	128,523	30.0	34,269	8.0	94,254	22.0	5,662	44	149	1.2	35,584	8.3
1956.....	135,884	29.4	35,042	7.6	100,842	21.8	5,544	41	125	0.9	37,290	8.1
1957.....	141,707	29.8	36,234	7.6	105,473	22.2	5,412	38	115	0.8	37,135	7.8
Ontario—												
Av. 1931-35.....	65,000	18.5	35,782	10.2	29,218	8.3	3,962	61	344	5.3	24,260	6.9
" 1936-40.....	64,461	17.5	37,794	10.3	26,668	7.2	3,196	50	291	4.5	32,719	8.9
" 1941-45.....	77,738	19.9	39,738	10.2	38,000	9.7	3,276	42	197	2.5	38,042	9.7
" 1946-50.....	105,161	24.6	42,214	9.9	62,947	14.7	3,795	36	129	1.2	44,084	10.3
" 1951-55.....	128,861	26.1	44,715	9.0	84,146	17.1	3,634	28	83	0.6	45,213	9.1
1956.....	143,516	26.6	47,231	8.7	96,285	17.9	3,610	25	70	0.5	46,282	8.6
1957.....	150,920	26.8	49,164	8.7	101,756	18.1	3,776	25	55	0.4	46,780	8.3
Manitoba—												
Av. 1931-35.....	13,690	19.4	5,413	7.7	8,277	11.7	835	61	60	4.4	5,015	7.1
" 1936-40.....	13,515	18.8	6,136	8.5	7,379	10.3	773	57	54	4.0	6,931	9.6
" 1941-45.....	15,831	21.8	6,633	9.1	9,198	12.7	814	51	41	2.6	7,295	10.0
" 1946-50.....	19,325	25.9	6,702	9.0	12,623	16.9	810	42	24	1.3	7,605	10.2
" 1951-55.....	21,321	26.4	6,775	8.4	14,546	18.0	675	32	15	0.7	7,104	8.8
1956.....	21,945	25.8	7,058	8.3	14,887	17.5	676	31	6	0.3	6,709	7.9
1957.....	22,362	26.0	7,368	8.6	14,994	17.4	711	32	10	0.4	6,594	7.7

¹ Under one year of age.² Per 1,000 population.³ Per 1,000 live births.

1.—Summary of Principal Vital Statistics, by Province, 1931-57—concluded

Province or Territory and Year	Live Births		Deaths		Natural Increase		Infant Mortality ¹		Maternal Mortality		Marriages	
	No.	Rate ²	No.	Rate ²	No.	Rate ²	No.	Rate ³	No.	Rate ³	No.	Rate ²
Saskatchewan—												
Av. 1931-35.....	20,325	21.9	6,037	6.5	14,288	15.4	1,260	62	91	4.5	5,680	6.1
" 1936-40.....	18,675	20.4	6,366	7.0	12,310	13.4	1,025	55	68	3.6	6,599	7.2
" 1941-45.....	18,444	21.7	6,437	7.6	12,007	14.1	858	47	52	2.8	6,541	7.7
" 1946-50.....	21,907	26.3	6,473	7.8	15,434	18.5	883	40	29	1.3	7,413	8.9
" 1951-55.....	23,554	27.5	6,547	7.6	17,007	19.9	743	32	16	0.7	6,876	8.0
1956.....	24,059	27.3	6,666	7.6	17,393	19.7	680	28	8	0.3	6,403	7.3
1957.....	23,921	27.2	6,743	7.7	17,178	19.5	609	25	5	0.2	6,510	7.4
Alberta—												
Av. 1931-35.....	16,557	22.1	5,447	7.3	11,110	14.8	997	60	75	4.5	5,530	7.4
" 1936-40.....	16,282	20.8	6,054	7.7	10,228	13.1	869	53	73	4.5	7,192	9.2
" 1941-45.....	18,845	23.7	6,355	8.0	12,490	15.7	827	44	46	2.4	7,977	10.0
" 1946-50.....	24,290	28.4	6,814	8.0	17,476	20.4	889	37	25	1.0	9,090	10.6
" 1951-55.....	31,087	30.6	7,527	7.4	23,560	23.2	894	29	15	0.5	9,750	9.6
1956.....	34,951	31.1	7,786	6.9	27,165	24.2	860	25	14	0.4	9,965	8.9
1957.....	35,718	30.8	8,255	7.1	27,463	23.7	963	27	12	0.3	10,117	8.7
British Columbia—												
Av. 1931-35.....	10,005	14.0	6,344	8.9	3,661	5.1	463	46	53	5.3	4,267	6.0
" 1936-40.....	12,106	15.6	7,697	9.9	4,408	5.7	532	44	46	3.8	7,053	9.1
" 1941-45.....	17,705	19.8	9,368	10.5	8,337	9.3	684	39	46	2.6	9,535	10.7
" 1946-50.....	25,859	25.0	10,992	10.2	14,867	13.9	868	34	31	1.2	11,564	10.7
" 1951-55.....	31,347	24.1	12,233	9.8	19,114	15.3	856	27	17	0.5	11,131	8.9
1956.....	36,241	25.9	13,415	9.6	22,826	16.3	944	26	13	0.4	11,950	8.5
1957.....	38,744	26.1	13,711	9.2	25,033	16.9	1,096	28	15	0.4	12,620	8.5
Yukon—												
Av. 1931-35.....	49	11.6	61	14.5	-12	-2.9	4	86	--	4.1	24	5.8
" 1936-40.....	69	13.8	73	14.6	-4	-0.8	7	102	1	8.7	36	7.2
" 1941-45.....	105	21.0	96	19.3	9	1.7	11	101	1	5.7	60	12.1
" 1946-50.....	254	31.7	91	11.4	163	20.3	16	63	--	1.6	73	9.1
" 1951-55.....	413	43.0	90	9.4	323	33.6	22	53	--	0.5	94	9.8
1956.....	481	40.1	85	7.1	396	33.0	23	48	—	—	112	9.3
1957.....	494	41.2	93	7.8	401	33.4	27	55	1	2.0	110	9.2
Northwest Territories—												
Av. 1931-35.....	190	19.0	137	13.7	53	5.3	21	110	1	4.2	41	4.1
" 1936-40.....	228	20.0	177	15.5	51	4.5	29	125	2	10.5	72	6.3
" 1941-45.....	383	31.9	332	27.7	51	4.2	72	189	2	4.7	95	7.9
" 1946-50.....	626	39.1	372	23.2	254	15.9	87	139	3	5.4	139	8.7
" 1951-55.....	666	40.1	284	17.1	382	23.0	78	117	2	3.6	115	6.9
1956.....	785	41.3	291	15.3	494	26.0	117	149	3	3.8	146	7.7
1957.....	900	47.4	325	17.1	575	30.3	129	143	2	2.2	162	8.5
Canada—⁴												
Av. 1931-35.....	228,591	21.5	103,800	9.8	124,791	11.7	17,126	75	1,154	5.1	68,660	6.5
" 1936-40.....	229,064	20.5	109,764	9.8	119,300	10.7	14,737	61	1,046	4.6	96,931	8.7
" 1941-45.....	277,320	23.5	115,572	9.8	161,748	13.7	15,176	55	792	2.9	114,091	9.7
" 1946-50.....	353,748	27.4	129,438	9.3	225,310	18.1	15,723	44	527	1.5	126,898	9.8
" 1951-55.....	416,334	28.0	126,666	8.5	289,668	19.5	14,532	35	353	0.8	128,915	8.7
1956.....	450,739	28.0	131,961	8.2	318,778	19.8	14,399	32	278	0.6	132,713	8.3
1957.....	469,093	28.3	136,579	8.2	332,514	20.1	14,517	31	255	0.5	133,186	8.0

¹ Under one year of age. ² Per 1,000 population.³ Per 1,000 live births.⁴ Figures for

Newfoundland are included for 1949-57 only.

2.—Summary of Principal Vital Statistics for Urban Centres of 10,000 Population or Over¹ (residents only), 1951-57

Province and Urban Centre	Births			Deaths			Natural Increase			Infant Deaths			
	Av. 1951-55	1956	1957	Av. 1951-55	1956	1957	Av. 1951-55	1956	1957	Av. 1951-55	1956	1957	
	No.	No.	No.	No.	No.	No.	No.	No.	No.	Rate ²	Rate ²	No.	Rate ²
Newfoundland—													
Corner Brook.....	735	984	915	90	121	141	645	863	774	33	40	39	43
St. John's.....	1,878	2,155	2,072	507	533	496	1,371	1,622	1,576	40	29	58	28
Prince Edward Island—													
Charlottetown.....	477	486	486	206	218	210	271	268	276	30	49	19	39
Nova Scotia—													
Amherst.....	263	273	271	109	97	87	154	176	184	39	44	7	26
Dartmouth.....	633	772	853	103	121	136	530	651	717	18	19	23	27
Glace Bay.....	687	629	612	220	204	206	467	425	406	40	43	19	31
Halifax.....	2,482	2,496	2,532	725	786	783	1,757	1,710	1,749	24	33	60	24
New Waterford.....	369	370	352	87	104	63	282	266	289	50	57	5	14
Sydney.....	1,063	971	967	246	230	243	817	741	724	23	9	11	11
Truro.....	299	392	393	94	122	119	205	270	274	23	33	10	25
New Brunswick—													
Edmundston.....	398	380	383	68	82	64	330	298	319	36	26	14	37
Fredericton.....	453	504	502	153	154	174	300	350	328	32	18	7	14
Lancaster.....			255			97			158			2	8
Moncton.....	775	861	1,154	218	250	279	557	611	875	29	24	27	23
Saint John.....	1,499	1,487	1,547	556	560	581	943	927	966	27	30	54	35
Quebec—													
Alma.....	391	452	515	58	65	60	333	387	455	50	44	20	39
Arvida.....	389	470	469	46	40	37	343	430	432	43	28	7	15
Cap de la Madeleine.....	680	715	765	127	144	154	553	571	611	34	46	29	38
Chicoutimi.....	1,041	1,075	1,016	197	186	200	844	889	816	54	56	36	35
Dorval.....	265	427	400	43	52	69	222	375	331	23	7	7	18
Drummondville.....	548	808	778	138	191	194	410	617	584	55	68	23	30
Granby.....	854	853	891	178	173	176	678	680	715	33	23	31	35
Grand Mère.....	406	449	465	83	82	80	323	367	385	38	45	21	45
Hull.....	1,686	1,815	1,719	413	365	383	1,173	1,450	1,336	60	38	70	41
Jacques Cartier.....	1,051	1,223	1,294	186	193	211	865	1,030	1,083	55	36	43	33
Joliette.....	470	509	554	164	173	187	306	336	367	40	53	33	60
Jonquière.....	943	1,033	1,028	148	133	143	795	900	885	46	37	41	40
Kénogami.....	402	440	416	59	49	51	343	391	365	35	36	7	17
Lachine.....	777	892	916	234	249	295	543	643	621	28	24	17	19
LaSalle.....	480	655	841	87	126	142	393	529	699	27	17	18	21
La Tuque.....	315	353	421	65	87	99	250	266	322	32	45	17	40
Laizon.....	263	257	290	79	76	63	184	181	227	56	39	10	34
Laval des Rapides.....	193	337	364	41	51	58	152	286	306	36	42	10	27
Lévis.....	338	313	310	118	142	125	220	171	185	57	48	13	42
Longueuil.....	391	412	465	106	107	107	285	305	358	40	19	9	19
Magog.....	404	391	360	101	89	91	303	302	269	36	36	5	14
Montreal.....	27,847	28,283	29,883	9,937	9,862	10,386	17,910	18,421	19,497	32	30	887	30
Montreal North.....	546	794	986	107	156	181	439	638	805	42	25	25	25
Mount Royal.....	237	265	268	73	94	96	164	171	172	19	26	5	19
Noranda.....	366	328	372	50	51	63	316	277	309	34	34	15	40
Outremont.....	302	351	390	275	334	310	27	17	80	24	37	9	23
Pointe aux Trembles.....	289	390	467	108	89	100	181	301	367	121	69	18	39
Pointe Claire.....	284	370	476	63	99	105	221	271	371	18	22	11	23
Quebec.....	4,316	4,508	4,628	1,630	1,553	1,551	2,686	2,955	3,077	62	43	167	36
Rimouski.....	448	478	553	82	74	93	366	404	460	50	29	19	34
Rouyn.....	595	645	699	100	95	121	495	550	578	48	26	24	34
St. Foy.....		562	681		65	90		497	591		25	24	35
St. Hyacinthe.....	543	493	483	248	244	223	295	249	280	32	67	24	50
St. Jean.....	671	756	830	168	158	181	503	598	649	38	25	20	24
St. Jérôme.....	596	610	695	134	144	138	462	466	557	49	44	29	42
St. Lambert.....	219	252	274	82	85	94	137	167	180	27	20	6	22
St. Laurent.....	886	1,098	1,120	163	213	233	723	885	887	23	20	29	26

¹ As at the 1956 Census.² Per 1,000 live births.

2.—Summary of Principal Vital Statistics for Urban Centres of 10,000 Population or Over¹ (residents only), 1951-57—continued

Province and Urban Centre	Births			Deaths			Natural Increase			Infant Deaths			
	Av. 1951-55	1956	1957	Av. 1951-55	1956	1957	Av. 1951-55	1956	1957	Av. 1951-55	1956	1957	
	No.	No.	No.	No.	No.	No.	No.	No.	No.	Rate ²	Rate ²	No.	Rate ²
	No.	No.	No.	No.	No.	No.	No.	No.	No.	Rate ²	Rate ²	No.	Rate ²
Quebec—concluded													
St. Michel.....	553	956	1,198	76	125	120	477	831	1,078	27	35	27	23
Shawinigan Falls.....	866	856	913	179	176	184	687	680	729	37	51	45	49
Shawinigan South.....		314	354		52	54		262	300		48	16	45
Sherbrooke.....	1,751	1,765	1,749	463	442	483	1,288	1,323	1,266	41	34	59	34
Sillery.....	266	262	315	63	68	87	203	194	228	30	31	14	44
Sorel.....	510	476	472	137	130	144	373	346	328	52	29	30	64
Thetford Mines.....	574	663	669	126	142	151	448	521	518	46	42	23	34
Trois Rivières.....	1,440	1,463	1,562	389	396	405	1,051	1,067	1,157	46	43	54	35
Valleyfield.....	725	743	780	190	177	210	535	566	570	47	36	30	38
Verdun.....	1,807	1,819	1,904	587	593	602	1,220	1,226	1,302	22	20	51	27
Victoriaville.....	476	513	532	147	142	135	329	371	397	73	51	25	47
Westmount.....	264	261	282	287	289	292	-23	-28	-10	30	19	9	32
Ontario—													
Barrie.....	432	560	578	137	151	131	295	409	447	25	25	19	33
Belleville.....	540	542	553	195	192	217	345	350	336	29	20	16	29
Brampton.....	254	314	364	94	105	115	160	209	249	28	22	8	22
Brantford.....	989	1,184	1,250	400	513	448	580	671	766	28	27	24	19
Brockville.....	308	323	361	145	159	178	163	164	133	40	31	11	30
Chatham.....	569	578	521	223	220	200	346	358	321	31	31	16	31
Cornwall.....	507	476	1,317	166	173	345	341	303	972	32	29	41	31
Eastview.....	619	839	943	91	119	104	528	720	839	34	29	18	19
Forest Hill.....	232	259	226	107	138	143	125	121	83	15	12	2	9
Galt William.....	991	981	1,042	319	310	357	672	671	685	21	25	25	24
Galt.....	494	567	599	200	220	236	294	347	363	22	14	15	25
Guelph.....	775	902	964	309	342	342	466	560	622	30	31	17	18
Hamilton.....	5,682	6,173	6,593	2,014	2,076	2,321	3,668	4,097	4,272	28	24	146	22
Kenora.....	255	268	307	74	80	98	181	183	209	26	34	10	33
Kingston.....	1,182	1,329	1,352	448	472	494	734	857	858	31	29	39	29
Kitchener.....	1,437	1,662	1,753	405	493	479	1,032	1,169	1,274	21	23	36	21
Leaside.....	288	235	211	101	136	112	187	99	99	18	13	1	5
Lindsay.....	228	242	219	129	129	126	99	113	93	37	29	10	46
London.....	2,428	2,496	2,578	1,074	1,050	1,080	1,354	1,446	1,498	26	25	72	28
Long Branch.....	251	311	329	52	70	92	199	241	237	21	19	7	21
Mimico.....	308	334	370	107	92	97	201	242	273	18	15	6	16
New Toronto.....	233	234	243	81	85	92	152	149	151	13	13	9	37
Niagara Falls.....	595	571	609	233	253	242	362	318	367	30	16	19	31
North Bay.....	558	630	736	182	181	192	376	449	544	32	25	13	18
Orillia.....	375	365	365	134	152	160	241	213	205	34	30	16	44
Oshawa.....	1,239	1,501	1,514	325	323	361	914	1,178	1,153	30	27	43	28
Ottawa.....	5,325	5,620	5,686	2,006	2,137	2,118	3,319	3,483	3,598	31	30	117	21
Owen Sound.....	412	438	411	187	192	160	225	246	251	32	18	9	22
Pembroke.....	430	518	548	129	175	155	301	343	393	47	46	24	44
Peterborough.....	1,104	1,069	1,087	349	407	439	755	662	648	25	30	31	29
Port Arthur.....	956	995	1,080	347	349	404	609	646	676	25	31	29	27
Port Colborne.....	360	388	466	101	95	97	259	293	369	32	26	10	21
Riverside.....	336	423	410	72	84	83	264	339	327	22	19	6	15
St. Catharines.....	903	886	931	369	424	401	534	462	530	23	27	21	23
St. Thomas.....	405	391	438	233	237	258	172	154	180	24	20	8	18
Sarnia.....	1,188	1,315	1,423	291	329	354	897	986	1,069	32	19	40	28
Sault Ste. Marie.....	1,014	1,071	1,196	292	290	299	722	781	897	25	14	32	27
Stratford.....	432	445	410	218	241	222	214	204	188	28	20	5	12
Sudbury.....	1,623	1,669	1,704	303	312	352	1,320	1,357	1,352	34	25	56	33
Timmins.....	821	805	798	202	243	242	619	562	556	38	32	28	35
Toronto.....	14,750	15,106	16,262	7,630	7,377	7,553	7,120	7,729	8,709	25	25	345	21
Trenton.....	366	387	456	89	98	114	277	289	342	32	21	10	22
Waterloo.....	368	474	495	96	112	140	272	362	355	18	11	16	32
Welland.....	427	367	453	118	151	165	309	216	288	23	25	9	20
Windsor.....	3,110	3,027	3,197	1,105	1,089	1,145	2,005	1,938	2,052	30	30	84	26
Woodstock.....	390	462	484	167	179	171	223	283	313	19	19	9	19

¹ As at the 1956 Census.

² Per 1,000 live births.

2.—Summary of Principal Vital Statistics for Urban Centres of 10,000 Population or Over¹ (residents only), 1951-57—concluded

Province and Urban Centre	Births			Deaths			Natural Increase			Infant Deaths			
	Av. 1951-55	1956	1957	Av. 1951-55	1956	1957	Av. 1951-55	1956	1957	Av. 1951-55	1956	1957	
	No.	No.	No.	No.	No.	No.	No.	No.	No.	Rate ²	Rate ²	No.	Rate ²
Manitoba—													
Brandon.....	555	643	714	201	198	223	354	445	491	26	22	17	24
Flin Flon.....		321	340		48	52		273	288		22	4	12
Portage la Prairie.....	263	343	368	93	83	87	170	260	281	31	23	11	30
St. Boniface.....	753	821	898	209	290	323	544	531	575	27	27	20	22
St. James.....			672			210			462			14	21
Winnipeg.....	5,766	6,123	6,166	2,408	2,469	2,617	3,358	3,654	3,549	26	24	185	30
Saskatchewan—													
Moose Jaw.....	774	887	903	287	284	323	487	603	580	27	28	13	14
Prince Albert.....	558	608	606	133	161	173	425	447	433	29	38	21	35
Regina.....	2,143	2,609	2,817	589	677	619	1,554	1,932	2,198	23	25	78	28
Saskatoon.....	1,811	2,217	2,292	529	595	598	1,282	1,622	1,694	28	21	34	15
Swift Current.....	275	369	334	77	90	87	198	279	247	33	14	7	21
Alberta—													
Calgary.....	4,462	5,851	6,212	1,304	1,362	1,488	3,158	4,489	4,724	27	17	146	24
Edmonton.....	6,481	8,037	8,364	1,346	1,463	1,626	5,135	6,574	6,738	23	22	194	23
Jasper Place.....		700	692		66	62		634	630		16	12	17
Lethbridge.....	816	871	857	195	210	234	621	661	623	25	31	16	19
Medicine Hat.....	464	572	575	173	202	209	291	370	366	20	17	12	21
Red Deer.....	358	484	554	73	84	96	285	400	458	23	21	10	18
British Columbia—													
Nanaimo.....	331	373	444	151	188	159	180	185	285	25	38	9	20
New Westminster.....	584	632	658	272	331	296	312	301	362	19	22	9	14
North Vancouver.....	647	652	587	190	195	213	457	387	374	19	24	13	22
Penticton.....	247	255	235	71	109	96	176	146	139	32	16	3	13
Port Alberni.....	255	300	319	56	54	55	199	246	264	25	27	10	31
Prince George.....	370	573	573	69	96	87	301	477	486	33	21	18	31
Prince Rupert.....	302	328	356	95	102	113	207	226	243	41	40	23	65
Trail.....	380	359	335	74	88	81	306	271	254	21	22	5	15
Vancouver.....	7,738	7,876	8,411	4,223	4,472	4,526	3,515	3,404	3,885	22	21	202	24
Victoria.....	1,159	1,272	1,250	768	806	855	391	466	395	21	22	35	28

¹ As at the 1956 Census.² Per 1,000 live births.

Section 2.—Births*

The Canadian birth rate in 1921 was 29 per 1,000 population. As a rate of 35 is very high for countries of modern western civilization, the Canadian rate had probably not fallen far, nor for long, before 1921. It fell continuously until 1937 when it reached a low of 20 but, as a result of economic recovery and the War, it rose to 22 in 1940, 24 in 1943 and a record high of 28.9 in 1947. Since then the rate has fluctuated moderately being just over 27 in 1950, 28.5 in 1954, 28.0 in 1956 and 28.3 in 1957.

The birth rates in most provinces followed similar trends but there were some regional differences in the birth rate pattern in recent years. Although all provinces had record high rates immediately following World War II, average birth rates in Ontario and the western provinces were higher during 1951-55 than those for the 1946-50 period, while those for Quebec and the Maritimes were lower. In fact, Ontario, British Columbia and Alberta had all-time record high crude birth rates during the past three to four years.

* For international comparisons see Section 7, pp. 228-229.

It has always been assumed that the Province of Quebec has had the highest birth rate in Canada, but Table 1 shows that since the late 1930's or early 1940's Newfoundland and New Brunswick have had higher birth rates than Quebec. In 1957, Newfoundland had a crude rate of 36.0, followed by Alberta with a rate of 30.8, New Brunswick 30.1 and Quebec 29.8; Manitoba and British Columbia had the lowest rates with 26.0 and 26.1 respectively. However these crude rates are based on total population and therefore do not reflect the fertility of the women who are of reproductive age in the different provinces. A more accurate measure of fertility is the rate based on the number of married women in the population in the main reproductive ages, 15 to 44. The numbers of children born in 1956 and 1957 to every 1,000 married women in this age group were as follows:—

Province	1956	1957	Province	1956	1957
Prince Edward Island.....	216	223	Saskatchewan.....	188	189
Nova Scotia.....	192	194	Alberta.....	196	194
New Brunswick.....	226	229	British Columbia.....	163	163
Quebec.....	215	218			
Ontario.....	167	169	CANADA*.....	187	188
Manitoba.....	171	174			

*Data not available for Newfoundland and the Territories.

On this basis, Prince Edward Island, New Brunswick and Quebec had the highest fertility rate for this whole group of married women of reproductive age and Ontario and British Columbia the lowest.

Also, contrary to popular impression, since 1953 more babies were born each year in Ontario than in the Province of Quebec; in 1957, 150,920 babies were born to Ontario mothers as compared with 141,707 to Quebec mothers. A record total of 469,093 were born to all mothers in Canada in 1957, 18,354 more than in the previous year.

Sex of Live Births.—Wherever birth statistics have been collected they have shown an excess of male over female births. No conclusive explanation of this excess has yet been given. Nevertheless it is so much of an accepted statistical fact that a proper ratio of male to female births has become one of the criteria of complete registration. The number of males to every 1,000 females born in Canada has varied since the middle 1930's between 1,047 and 1,067 annually and averages around 1,057. Provincial sex ratios vary much more widely because of the relatively small number of births involved—the smaller the total number of births, the greater the chance of wide sex-ratio variations from year to year.

3.—Sex Ratio of Live Births, 1931-57

NOTE.—Figures for Newfoundland are included for 1949-57 and those for the Yukon and Northwest Territories for 1950-57.

Year	Male	Female	Males to 1,000 Females	Year	Male	Female	Males to 1,000 Females
	No.	No.	No.		No.	No.	No.
1931.....	123,622	116,851	1,058	1945.....	148,912	139,818	1,065
1932.....	121,082	114,584	1,057	1946.....	169,945	160,787	1,057
1933.....	114,388	108,480	1,054	1947.....	183,973	175,121	1,051
1934.....	113,323	107,980	1,049	1948.....	178,123	169,184	1,053
1935.....	113,293	108,158	1,047	1949.....	188,339	177,800	1,059
1936.....	113,289	107,082	1,058	1950.....	191,413	180,596	1,060
1937.....	113,143	107,092	1,057	1951.....	195,918	185,174	1,058
1938.....	117,862	111,584	1,056	1952.....	208,070	195,489	1,064
1939.....	117,594	111,874	1,051	1953.....	214,423	203,461	1,054
1940.....	125,279	119,037	1,052	1954.....	224,168	212,030	1,057
1941.....	131,175	124,142	1,057	1955.....	227,382	215,555	1,055
1942.....	140,584	131,729	1,067	1956.....	231,697	219,042	1,058
1943.....	145,725	137,855	1,057	1957.....	241,073	228,020	1,057
1944.....	146,652	137,568	1,066				

Hospitalized Births.—In 1957 over 90 p.c. of all Canadian births occurred in hospital. Table 4 indicates the rise in hospitalized births in each province since 1931. Although the percentages have increased steadily in all provinces, they still vary widely from province to province. The existence of prepaid or provincially sponsored hospital, maternity or medical care plans in some provinces, the unavailability of hospital facilities in others—particularly in remote rural areas—and preference for home delivery in some local areas are among the factors accounting for provincial variations in this respect. The noticeable increases in hospitalized births within recent years in those provinces that previously had the lowest proportion may be partly the result of increased hospital services being provided in those areas.

4.—Percentage of Live Births Hospitalized, by Province, 1931-57

Year	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon	N.W.T.	Canada ¹
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
1931.....	11.2	19.0	12.1	7.3	38.2	43.6	32.5	47.8	65.0	..	..	26.8
1941.....	32.7	50.4	30.8	17.6	67.5	73.6	63.2	77.1	87.3	..	..	48.9
1951.....	88.3	87.2	70.7	53.0	93.1	93.1	95.2	93.6	97.3	87.4	32.8	79.1
1955.....	93.6	93.3	83.4	66.6	96.7	95.6	97.7	95.0	98.1	89.3	45.5	86.5
1956.....	95.2	93.9	84.7	71.2	97.3	95.8	97.6	96.6	98.3	87.7	44.6	88.4
1957.....	96.7	95.1	86.8	75.6	97.9	96.4	98.3	97.5	98.5	91.3	38.6	90.2

¹ Exclusive of Newfoundland for which data are not available.

Births in Urban Centres.—Table 2, pp. 200-202, shows the number of births in 1956 and 1957, regardless of where they occurred, to mothers residing in urban centres of 10,000 population or over.

Illegitimacy.*—In 1957, 4 p.c. of the live births in Canada were illegitimate. This percentage is low compared with that of many countries of the world. In the five-year period 1926-30 it was 3 p.c., whereas the average of the years 1951-55 was 3.8 p.c.

* The term "illegitimate", for statistical purposes, does not refer to births conceived out of wedlock but to those in which parents reported themselves as not having been married to each other at the time of the birth or the registration of the birth.

5.—Illegitimate Live Births and Percentages of Total Live Births, by Province, 1931-57

Year	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon	N.W.T.	Canada ¹
ILLEGITIMATE LIVE BIRTHS													
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
Ay. 1931-35..	205	74	652	373	2,431	2,707	501	651	613	330	..	..	8,333
" 1936-40..	246	83	766	415	2,539	2,939	506	663	643	475	..	..	9,030
" 1941-45..	406	107	1,074	591	3,003	3,751	597	673	852	889	..	..	11,536
" 1946-50..	441	152	1,244	754	3,382	4,256	766	914	1,202	1,516	..	..	14,375
" 1951-55..	426	139	1,082	659	4,086	4,065	969	1,044	1,481	1,898	53	50	15,951
1956.....	529	154	1,194	688	4,454	4,415	1,002	1,058	1,674	2,207	60	75	17,510
1957.....	635	142	1,168	711	4,506	4,796	1,070	1,168	1,810	2,473	63	87	18,629
PERCENTAGES OF TOTAL LIVE BIRTHS													
Ay. 1931-35..	3.1	3.8	5.7	3.6	3.1	4.2	3.7	3.2	3.7	3.3	..	..	3.6
" 1936-40..	3.2	4.0	6.4	3.7	3.2	4.6	3.7	3.6	3.9	3.9	..	..	3.9
" 1941-45..	4.4	4.9	7.1	4.5	3.1	4.8	3.8	3.6	4.5	5.0	..	..	4.2
" 1946-50..	3.6	5.3	6.9	4.5	2.9	4.0	4.0	4.2	4.9	5.9	..	..	4.1
" 1951-55..	3.2	5.1	5.9	4.0	3.2	3.2	4.5	4.4	4.8	6.1	12.9	7.5	3.8
1956.....	3.6	5.8	6.2	4.2	3.3	3.1	4.6	4.4	4.8	6.1	12.5	9.6	3.9
1957.....	4.1	5.3	6.0	4.2	3.2	3.2	4.8	4.9	5.1	6.4	12.8	9.7	4.0

¹ Figures for Newfoundland are included for 1949-57 only, and those for the Yukon and Northwest Territories for 1951-57 only.

Stillbirths.*—As is shown in Table 6, about 7,000 fetuses, where the mother was pregnant at least 28 weeks, are born dead annually. The 6,837 stillbirths in 1957 represented a rate of 14.6 for every 1,000 fetuses born alive. The stillbirth rate has been cut by more than one-half over the past 25 or 30 years. Although the variations between provincial rates have never been too wide, rates in some provinces have been reduced more than in others. The stillbirth rate among unmarried mothers has been consistently higher than that among married mothers, but this difference has been narrowing in recent years.

* A stillbirth is defined as the birth of a foetus after at least 28 weeks pregnancy which, after complete separation from the mother, does not show any sign of life.

6.—Stillbirths and Rates per 1,000 Live Births, by Province, 1931-57

Year	Born to All Mothers													Born to Un-married Mothers ¹	
	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon	N. W. T.	Can-ada ²	No.	P.C. of Total
STILLBIRTHS															
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.		
Av. 1931-35	141	67	401	302	2,337	2,284	383	488	421	247	..	2	6,933	381	5.50
" 1936-40	162	61	334	282	2,386	2,008	340	393	359	248	2	3	6,415	337	5.26
" 1941-45	191	50	388	295	2,786	1,988	345	348	327	309	1	6	6,845	355	5.20
" 1946-50	215	54	358	320	2,898	2,020	349	350	385	352	2	8	7,187	343	4.85
" 1951-55	222	52	337	291	2,705	2,017	336	313	425	374	6	11	7,088	316	4.60
1956.....	260	51	337	331	2,584	1,969	316	291	409	413	4	11	6,976	311	4.63
1957.....	259	46	325	252	2,551	1,999	302	280	385	422	5	11	6,837	299	4.55
RATES PER 1,000 LIVE BIRTHS														Rate per 1,000 Illegitimate Live Births ¹	
Av. 1931-35	21.1	34.2	34.9	28.9	29.6	35.1	28.0	24.0	25.4	24.7	4.1	11.6	30.3	45.7	
" 1936-40	21.2	29.7	27.7	25.4	30.4	31.2	25.2	21.0	22.0	20.5	26.2	13.2	28.0	37.3	
" 1941-45	20.5	22.8	25.6	22.6	28.5	25.6	21.8	18.9	17.4	17.5	11.4	15.7	24.7	30.8	
" 1946-50	17.4	18.9	19.9	19.0	25.1	19.2	18.1	16.0	15.9	13.6	8.7	12.5	20.2	24.2	
" 1951-55	17.0	19.0	18.4	17.7	21.0	15.6	15.7	13.3	13.7	11.9	14.1	16.5	17.0	20.3	
1956.....	17.9	19.2	17.6	20.0	19.0	13.7	14.4	12.1	11.7	11.4	8.3	14.0	15.5	18.3	
1957.....	16.9	17.2	16.8	14.8	18.0	13.2	13.5	11.7	10.8	10.9	10.1	12.2	14.6	16.6	

¹ Exclusive of Newfoundland for all years and of Yukon and Northwest Territories for 1931-50. for Newfoundland are included for 1949-57 only.

² Figures

Multiple Births.—Approximately one confinement in 90 in Canada results in the birth of more than one child as compared with one in 85 several years ago—in other words the chances of a confinement resulting in the birth of more than one child are less now than formerly. Other facts illustrated by Table 7 are that the proportion of stillbirths is higher among multiple than among single births and is about twice as high for twins and between three and five times as high for triplets

7.—Single and Multiple Births, Live and Stillborn, 1954-57

Confinements and Births	Numbers				Percentages			
	1954 ¹	1955 ¹	1956	1957	1954 ¹	1955 ¹	1956	1957
Confinements	437,417	443,586	452,607	470,651	100.0	100.0	100.0	100.0
Single.....	432,525	438,639	447,547	465,423	98.9	98.9	98.9	98.9
Twin.....	4,847	4,897	5,012	5,178	1.1	1.1	1.1	1.1
Triplet.....	44	50	48	49	--	--	--	--
Quadruplet.....	1	—	—	1	--	--	--	--
Births	442,355	448,583	457,715	475,930	100.0	100.0	100.0	100.0
Single—								
Live.....	425,615	432,089	440,916	458,859	98.4	98.5	98.5	98.6
Stillborn.....	6,910	6,550	6,631	6,564	1.6	1.5	1.5	1.4
Twin—								
Live.....	9,398	9,453	9,683	10,093	96.9	96.5	96.6	97.5
Stillborn.....	296	341	341	263	3.1	3.5	3.4	2.5
Triplet—								
Live.....	125	139	140	137	94.7	92.7	97.2	93.2
Stillborn.....	7	11	4	10	5.3	7.3	2.8	6.8
Quadruplet—								
Live.....	4	—	—	4	100.0	—	—	100.0
Stillborn.....	—	—	—	—	—	—	—	—
Totals, Live Births	435,142	441,681	450,739	469,093	98.4	98.5	98.5	98.6
Totals, Stillborn	7,213	6,902	6,976	6,837	1.6	1.5	1.5	1.4

¹ Excludes the Yukon and Northwest Territories.

Fertility Rates.—Sex and age distribution of the population is an important factor in determining birth, death and marriage rates. More than 95 p.c. of children born are to women between the ages of 15 and 50, so that, as noted earlier, variations in the proportion of women of these ages to the population as a whole will cause variations in the crude birth rates of different countries or regions even though the fertility of women at each age may be the same. Measures of fertility which are independent of the sex and age distribution of the population have therefore been devised. The best known of these are age-specific fertility rates—either per 1,000 *total* women* or per 1,000 *married* women in these age-groups—and reproduction rates.

Ages of Parents.—Ages of the parents is an important variable in any analysis of birth statistics. The distribution of legitimate and illegitimate live births by the age of the parents is given in Table 8, and for stillbirths in Table 9, as well as the average ages of the parents for each year shown.

More than 6 p.c. of the legitimate children born each year are born to mothers under 20 years of age, in about one-third of the births the mother is under 25 years, and in almost two-thirds, under 30 years; in 47 p.c. of all births the father is under 30 years of age. On the other hand one-third of the illegitimate infants born are born to mothers under 20 years of age and an additional one-third to mothers under 25 years.

* Available from DBS annual report, *Vital Statistics*.

8.—Live Births by Age of Parents, 1957

(Exclusive of Newfoundland)

Age Group	Legitimate				Illegitimate	
	Fathers		Mothers		Mothers	
	No.	p.c.	No.	p.c.	No.	p.c.
Under 20 years.....	3,898	0.9	28,706	6.6	6,262	35.9
20 — 24 ".....	69,488	16.0	121,002	27.8	5,859	33.6
25 — 29 ".....	130,679	30.1	128,902	29.6	2,727	15.6
30 — 34 ".....	106,660	24.6	90,057	20.7	1,493	8.6
35 — 39 ".....	67,773	15.6	50,564	11.6	826	4.7
40 — 44 ".....	35,296	8.1	15,216	3.5	251	1.4
45 — 49 ".....	14,340	3.3	1,151	0.3	28	0.2
50 years or over.....	5,911	1.4	19	--	2	--
Totals, Stated Ages.....	434,045	100.0	435,617	100.0	17,448	100.0
Ages not stated.....	1,739	...	167	...	546	...
Totals, All Ages.....	435,784	100.0	435,784	100.0	17,994	100.0
Average ages.....	31.6		28.3		23.9	

Table 9 illustrates the fact that the risk of having a stillborn child increases with the age of the mother. Although stillbirth rates for mothers of all ages have been declining in recent years, they continue to be almost three times as high among mothers of 40-44 years and almost four times as high among those over 45 years as for mothers under 30.

9.—Stillbirths and Rates per 1,000 Live Births, by Age of Mother, 1957

(Exclusive of Newfoundland)

Age Group of Mother	Live Births	Stillbirths	Rate per 1,000 Live Births
	No.	No.	No.
Under 20 years.....	34,968	346	9.9
20 — 24 ".....	126,861	1,423	11.2
25 — 29 ".....	131,629	1,632	12.4
30 — 34 ".....	91,550	1,437	15.7
35 — 39 ".....	51,390	1,147	22.3
40 — 44 ".....	16,467	512	33.1
45 — 49 ".....	1,179	51	43.3
50 years or over.....	21	1	47.6
Ages not stated.....	713	29	...
Totals, All Ages.....	453,778	6,578	14.5
Average age of mothers.....	30.1		

Order of Birth.—Table 10 shows the order of birth of all live-born infants in 1957 according to the age of the mother. As would be expected, 26,569, or three out of every four, of the 34,968 infants born to mothers under 20 years of age were first children, whereas almost six out of every ten of the children born to mothers of 20-24 years were second or later children. This is a reflection of the earlier marriages and heavy fertility of recent years.

Table 11 summarizes the pattern of family formation since 1931. The results of the immediate postwar 'baby boom' are obvious—57.9 p.c. of the infants born in 1947 were first or second children while 50.5 p.c. of the 1957 baby crop were third or later children.

10.—Order of Birth of Live-Born Children, by Age of Mother, 1957

(Exclusive of Newfoundland)

Order of Birth of Child	Age of Mother										Percentage of Total
	Under 15	15-19	20-24	25-29	30-34	35-39	40-44	45 or Over	Age Not Stated	All Ages	
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	
1st child.....	168	26,401	54,497	27,535	9,925	3,464	741	41	491	123,263	27.2
2nd ".....	1	6,912	40,534	35,999	16,408	5,791	1,130	42	47	106,864	23.5
3rd ".....	—	1,252	19,990	29,805	19,655	8,281	1,712	84	33	80,812	17.8
4th ".....	—	162	7,806	18,308	15,632	8,238	1,792	116	18	52,072	11.5
5th ".....	—	17	2,797	9,759	10,483	6,568	1,767	106	16	31,513	6.9
6th ".....	—	—	843	5,324	7,105	5,012	1,531	88	11	19,916	4.4
7th ".....	—	—	231	2,764	4,740	3,799	1,339	97	8	12,978	2.9
8th ".....	—	—	66	1,279	3,063	2,833	996	100	1	8,338	1.8
9th ".....	—	—	26	517	1,949	2,222	939	73	—	5,726	1.3
10th ".....	—	—	3	208	1,215	1,680	838	82	—	4,026	0.9
11th ".....	—	—	—	64	678	1,232	678	72	1	2,727	0.6
12th ".....	—	—	—	25	383	951	631	73	—	2,063	0.5
13th ".....	—	—	—	6	168	585	439	62	—	1,260	0.3
14th ".....	—	—	—	—	72	371	337	46	—	826	0.2
15th ".....	—	—	—	3	31	184	226	37	1	482	0.1
16th ".....	—	—	—	—	13	94	140	28	—	275	0.1
17th ".....	—	—	—	—	6	42	103	28	—	179	—
18th ".....	—	—	—	—	3	25	63	10	—	101	—
19th ".....	—	—	—	—	2	8	32	2	—	44	—
20th or over.....	—	—	—	—	—	5	29	8	—	42	—
Not stated.....	2	51	66	33	19	5	4	5	86	271	0.1
Totals.....	171	34,797	126,861	131,629	91,550	51,390	15,467	1,200	713	453,778	100.0

11.—Percentage Distribution of Legitimate Live Births, by Order of Birth, 1931-57

(Exclusive of Newfoundland for all years and the Yukon and Northwest Territories for 1931-49)

Year	1st Child	2nd Child	3rd Child	4th and Later Children	Total
1931.....	23.0	19.3	14.0	43.8	100.0
1932.....	22.1	19.4	14.2	44.3	100.0
1933.....	21.7	19.3	14.6	44.4	100.0
1934.....	22.2	19.0	14.4	44.4	100.0
1935.....	24.0	18.9	14.0	43.1	100.0
1936.....	25.3	19.2	13.4	42.1	100.0
1937.....	26.6	19.8	13.4	40.2	100.0
1938.....	28.2	20.6	13.3	38.0	100.0
1939.....	28.6	21.3	13.7	36.4	100.0
1940.....	30.3	22.1	13.8	33.9	100.0
1941.....	32.7	21.8	13.5	32.0	100.0
1942.....	32.8	23.1	13.4	30.6	100.0
1943.....	32.2	23.7	14.2	29.9	100.0
1944.....	30.0	24.2	14.9	30.9	100.0
1945.....	28.9	24.3	15.4	31.4	100.0
1946.....	31.0	24.8	15.2	29.0	100.0
1947.....	33.0	24.9	15.0	27.2	100.0
1948.....	29.6	26.0	15.9	28.5	100.0
1949.....	27.8	26.6	16.8	28.8	100.0
1950.....	26.7	26.2	17.4	29.6	100.0
1951.....	26.7	25.8	17.6	29.9	100.0
1952.....	26.9	24.8	17.9	30.3	100.0
1953.....	26.5	25.0	18.0	30.6	100.0
1954.....	26.1	24.6	18.0	31.2	100.0
1955.....	25.5	24.4	18.2	31.9	100.0
1956.....	25.2	24.3	18.3	32.2	100.0
1957.....	25.6	23.9	18.3	32.2	100.0

Section 3.—Deaths*

Since 1931 the Canadian death rate has fluctuated between 10.3 and 8.2 per 1,000 of the population, the low point having prevailed from 1954 through 1957. Table 1, pp. 198-199, shows that this decline has been apparent in varying degrees in all provinces. The generally low rates in the Prairie Provinces are partly the result of their younger average population; the uniformly higher rate in British Columbia is mainly attributable to a high proportion of people in the older age groups.

Subsection 1.—General Mortality

Sex and Age Distribution of Deaths.—Despite reductions in infant mortality over the past 25 or 30 years, more deaths still occur in the first year of life than in any other single year. Of the 107,000 deaths occurring in 1926, 31,000 or almost 30 p.c. were of children under five years of age and three-quarters of those were of children under one year of age. Of the 136,579 deaths in 1957, 16,891 or about 12.5 p.c. were of children under five years of age and, of those, 14,517 or over 85 p.c. were under one year. Most of the reduction took place among children over the age of one month but there was a notable decrease in all childhood ages up to five years.

Tremendous reductions have taken place in the mortality pattern since the early 1920's, with the most important reductions in the childhood and early adult ages. In 1931 over 19 p.c. of all male deaths were of persons five to 45 years of age; in 1957 these accounted for less than 11 p.c. of total deaths. The reduction in mortality among females in this age group is equally remarkable, the proportion dropping from almost 22 p.c. to approximately 8 p.c. Death rates for males up to age 45 have been roughly halved during the past 25 years; those for females in the same ages have been reduced as much as three to four times.

These reductions in the mortality rates in early and middle years of life have had the effect of increasing the number of people in the older age groups and of raising the average age of the population as a whole. As a consequence, much larger proportions of deaths are now occurring at the older ages and have raised the average age at death. In 1931 the average age at death of males was 43.1 years and of females 44.8 years; by 1957 this had advanced to 58.1 and 60.8 respectively. These trends are indicated clearly in Table 12.

* For international comparisons, see Section 7, pp. 228-229.

12.—Distribution of Deaths, by Age and Sex, 1931, 1941, 1951 and 1957

Age Group	1931 ¹		1941 ¹		1951		1957	
	Male	Female	Male	Female	Male	Female	Male	Female
NUMBERS								
Under 1 year.....	11,667	8,693	8,788	6,448	8,375	6,298	8,313	6,204
1 — 4 years.....	2,844	2,533	1,878	1,566	1,421	1,151	1,326	1,048
5 — 9 ".....	1,241	963	888	670	711	466	699	436
10 — 14 ".....	821	806	787	536	461	284	470	305
15 — 19 ".....	1,311	1,132	1,118	823	721	457	790	332
20 — 24 ".....	1,502	1,453	1,332	1,039	1,009	549	1,022	393
25 — 29 ".....	1,388	1,414	1,317	1,173	988	660	1,044	519
30 — 34 ".....	1,301	1,432	1,211	1,148	1,070	778	1,141	648
35 — 39 ".....	1,512	1,574	1,497	1,242	1,281	1,015	1,341	825
40 — 44 ".....	1,888	1,493	1,744	1,464	1,756	1,268	1,968	1,198
45 — 49 ".....	2,314	1,738	2,416	1,817	2,463	1,607	2,853	1,697
50 — 54 ".....	2,855	1,993	3,355	2,227	3,525	2,083	3,874	2,005
55 — 59 ".....	3,057	2,246	4,304	2,851	4,741	2,832	5,251	2,917
60 — 64 ".....	3,583	2,855	5,288	3,483	6,465	3,902	6,829	3,806
65 — 69 ".....	4,249	3,348	6,057	4,412	8,007	5,119	8,810	5,329
70 — 74 ".....	4,867	4,073	6,495	4,981	8,748	6,439	10,125	6,877
75 — 79 ".....	4,368	4,029	6,421	5,461	8,254	6,904	9,929	7,687
80 — 84 ".....	3,206	3,215	5,020	4,906	6,232	6,130	7,665	7,009
85 years or over.....	2,555	2,998	3,846	4,540	5,336	6,319	6,450	7,444
Totals, All Ages.....	56,529	47,988	63,852	50,787	71,564	54,259	79,900	56,679

¹ Excludes the Yukon and Northwest Territories.

12.—Distribution of Deaths, by Age and Sex, 1931, 1941, 1951 and 1957—concluded

Age Group	1931 ¹		1941 ¹		1951		1957	
	Male	Female	Male	Female	Male	Female	Male	Female
PERCENTAGES								
Under 1 year.....	20.6	18.1	13.8	12.7	11.7	11.6	10.4	10.9
1 — 4 years.....	5.0	5.3	2.9	3.1	2.0	2.1	1.7	1.8
5 — 9 ".....	2.2	2.0	1.4	1.3	1.0	0.9	0.9	0.8
10 — 14 ".....	1.5	1.7	1.2	1.1	0.6	0.5	0.6	0.5
15 — 19 ".....	2.3	2.4	1.8	1.6	1.0	0.8	1.0	0.6
20 — 24 ".....	2.7	3.0	2.1	2.0	1.4	1.0	1.3	0.7
25 — 29 ".....	2.5	2.9	2.1	2.3	1.4	1.2	1.3	0.9
30 — 34 ".....	2.3	3.0	1.9	2.3	1.5	1.4	1.4	1.1
35 — 39 ".....	2.7	3.3	2.3	2.4	1.8	1.9	1.7	1.5
40 — 44 ".....	3.3	3.1	2.7	2.9	2.5	2.3	2.5	2.1
45 — 49 ".....	4.1	3.6	3.8	3.6	3.4	3.0	3.6	3.0
50 — 54 ".....	5.0	4.2	5.3	4.4	4.9	3.8	4.8	3.5
55 — 59 ".....	5.4	4.7	6.9	5.6	6.6	5.2	6.6	5.1
60 — 64 ".....	6.3	5.9	8.3	6.9	9.0	7.2	8.5	6.7
65 — 69 ".....	7.5	7.0	9.5	8.7	11.2	9.4	11.0	9.4
70 — 74 ".....	8.6	8.5	10.2	9.8	12.2	11.9	12.7	12.1
75 — 79 ".....	7.7	8.4	10.1	10.7	11.5	12.7	12.4	13.6
80 — 84 ".....	5.7	6.7	7.9	9.7	8.7	11.3	9.6	12.4
85 years or over.....	4.5	6.2	6.0	8.9	7.5	11.6	8.1	13.1
Totals, All Ages.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
RATES PER 1,000 POPULATION								
Under 1 year.....	113.5	87.3	80.6	61.1	46.3	36.4	38.4	29.9
1 — 4 years.....	6.5	5.9	4.4	3.8	2.0	1.7	1.6	1.3
5 — 9 ".....	2.2	1.7	1.7	1.3	1.0	0.7	0.7	0.5
10 — 14 ".....	1.5	1.5	1.4	1.0	0.8	0.5	0.6	0.4
15 — 19 ".....	2.5	2.2	2.0	1.5	1.4	0.9	1.3	0.6
20 — 24 ".....	3.2	3.2	2.6	2.0	1.9	1.0	1.7	0.7
25 — 29 ".....	3.4	3.8	2.7	2.5	1.8	1.1	1.7	0.9
30 — 34 ".....	3.5	4.2	2.8	2.8	2.1	1.5	1.8	1.0
35 — 39 ".....	4.2	4.8	3.8	3.4	2.5	2.0	2.3	1.4
40 — 44 ".....	5.4	5.0	5.0	4.5	3.9	3.0	3.7	2.3
45 — 49 ".....	7.2	6.6	7.3	6.0	6.4	4.5	6.1	3.9
50 — 54 ".....	10.7	9.0	10.6	8.1	10.4	6.5	9.9	5.5
55 — 59 ".....	15.4	13.4	16.0	12.3	16.2	10.2	16.0	9.3
60 — 64 ".....	22.9	20.7	24.2	18.5	24.5	16.1	25.5	14.4
65 — 69 ".....	35.2	30.3	37.3	30.4	35.1	24.9	37.4	23.3
70 — 74 ".....	55.0	49.1	58.5	47.0	54.5	41.6	53.3	36.6
75 — 79 ".....	87.4	82.9	95.7	79.7	87.6	73.3	84.1	64.2
80 — 84 ".....	134.1	127.1	147.6	131.2	135.5	120.7	133.5	110.6
85 years or over.....	228.1	212.6	241.9	229.3	235.1	212.0	228.7	201.2
Totals, All Ages.....	10.5	9.6	10.8	9.1	10.1	7.8	9.5	6.9
Average age at death.....	43.1	44.8	51.5	53.4	56.3	58.7	58.1	60.8

¹ Excludes the Yukon and Northwest Territories.

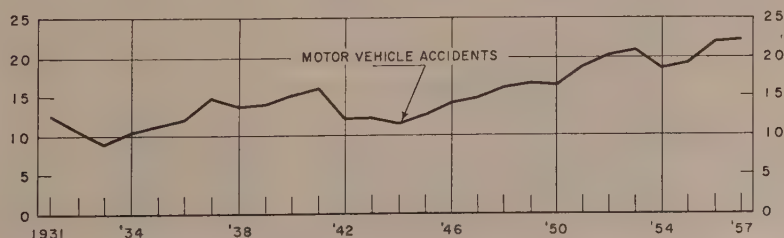
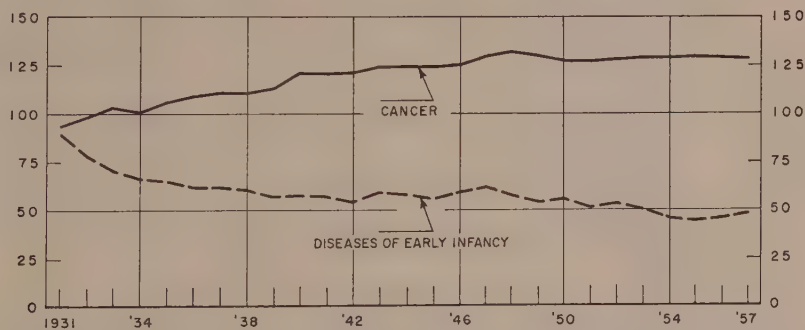
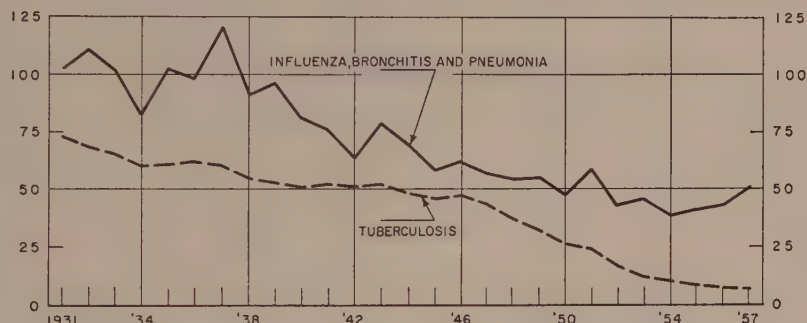
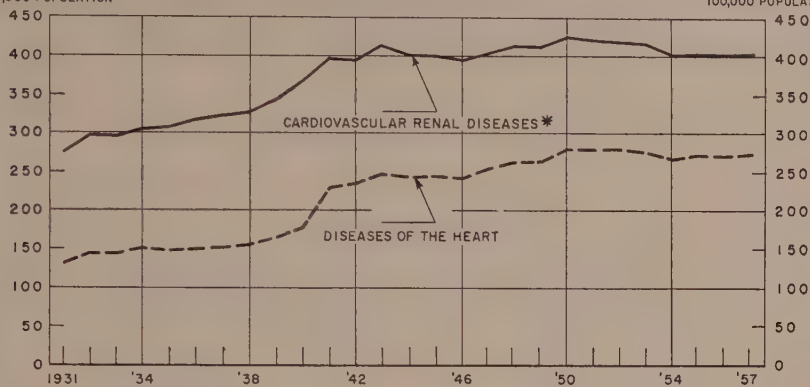
Deaths in Urban Centres.—For convenient reference, Table 2 on pp. 200-202 shows the number of deaths in 1957 for urban centres of 10,000 population or over. Without a knowledge of the age composition of each centre it is difficult to compare rates for various centres. The migration of young people from rural areas to some urban centres and of older people to other centres creates a favourable situation for a low or high rate as the case may be. Despite differences in the age factor, some urban areas have very low death rates compared with other centres of the same size and with other areas in the same province.

Causes of Death.—Table 13 shows the deaths and death rates in Canada grouped according to the International Abbreviated List of 50 Causes. About 80 p.c. of the deaths are caused by diseases of the heart and arteries, cancer, accidents, diseases of early infancy, the respiratory diseases—tuberculosis, pneumonia and influenza—and nephritis.

MAJOR CAUSES OF DEATH

RATE PER
100,000 POPULATION

RATE PER
100,000 POPULATION



* INCLUDES: DISEASES OF HEART (INCL. RHEUMATIC FEVER) AND ARTERIES, INTRACRANIAL LESIONS, CHRONIC NEPHRITIS.

The rise in the average age at death has already been noted (p. 209). Causes of death that mainly affect children and young adults have declined. Diphtheria for example has been almost wiped out and tuberculosis has been greatly reduced. On the other hand the aging of the population increases the proportion of deaths from certain causes that affect older people. Thus, cancer and diseases of the cardiovascular renal systems now account for a substantially larger proportion of all deaths than formerly.

These trends indicate the remarkable success that has attended the attack by health authorities on the infective and contagious diseases which in the past have constituted such a great hazard in the early and young adult years of life. They have similarly served to emphasize the emergence of the chronic and degenerative conditions of later life as the targets towards which the public health programs of the future will be directed. In effect, Canada has shared the experience of most western nations in exchanging a high mortality in younger life for high morbidity in older age groups.

The Chart on p. 211 shows death rates for the major cause groups from 1931-57.

13.—Deaths and Rates per 100,000 Population, according to the International Abbreviated List of 50 Causes, 1956 and 1957

International List No.		Cause of Death	Numbers of Deaths		Rates per 100,000 Population	
Abbreviated List	Detailed List		1956	1957	1956	1957
B 1	001-008	Tuberculosis of respiratory system.....	1,079	1,035	6.7	6.2
B 2	010-019	Tuberculosis, other forms.....	177	148	1.1	0.9
B 3	020-029	Syphilis and its sequelæ.....	209	190	1.3	1.1
B 4	040	Typhoid fever.....	9	12	0.1	0.1
B 5	043	Cholera.....	—	—	—	—
B 6	045-048	Dysentery, all forms.....	29	25	0.2	0.2
B 7	050, 051	Scarlet fever and streptococcal sore throat..	24	25	0.1	0.2
B 8	055	Diphtheria.....	8	20	1	0.1
B 9	056	Whooping cough.....	118	63	0.7	0.4
B10	057	Meningococcal infections.....	84	86	0.5	0.5
B11	058	Plague.....	—	—	—	—
B12	080	Acute poliomyelitis.....	51	26	0.3	0.2
B13	084	Smallpox.....	—	—	—	—
B14	085	Measles.....	177	108	1.1	0.7
B15	100-108	Typhus and other rickettsial diseases.....	1	—	1	—
B16	110-117	Malaria.....	—	1	—	1
	030-039, 041, 042, 044, 049, 052-054,					
B17	059-074, 081-083, 086-096, 120-138	All other diseases classified as infective and parasitic.....	386	348	2.4	2.1
B18	140-205	Cancer (all malignant neoplasms) ²	20,863	21,390	129.8	128.9
	(201)	Cancer ³	19,818	20,866	123.8	122.2
	(204)	Hodgkin's disease.....	215	234	1.3	1.4
		Leukæmia and aleukæmia.....	835	890	5.2	5.4
B19	210-239	Benign and unspecified neoplasms.....	256	349	2.2	2.1
B20	260	Diabetes mellitus.....	1,820	1,886	11.3	11.2
B21	290-293	Anæmias.....	355	328	2.2	2.0
B22	330-334	Vascular lesions affecting central nervous system.....	14,447	15,151	89.8	91.3
B23	340	Non-meningococcal meningitis.....	242	205	1.5	1.2
B24	400-402	Rheumatic fever.....	110	116	0.7	0.7
B25	410-416	Chronic rheumatic heart disease.....	1,448	1,609	9.0	9.7

For footnotes, see end of table.

13.—Deaths and Rates per 100,000 Population, according to the International Abbreviated List of 50 Causes, 1956 and 1957—concluded

International List No.		Cause of Death	Numbers of Deaths		Rates per 100,000 Population	
Abbreviated List	Detailed List		1956	1957	1956	1957
B26	420-422	Arteriosclerotic and degenerative heart disease.....	36,576	38,278	227.4	230.7
B27	430-434	Other diseases of heart.....	1,913	1,969	11.9	11.9
B28	440-443	Hypertension with heart disease.....	4,038	3,781	25.1	22.8
B29	444-447	Hypertension without mention of heart....	959	914	6.0	5.5
B30	480-483	Influenza.....	612	1,762	3.8	10.6
B31	490-493	Pneumonia.....	5,158	5,398	32.1	32.5
B32	500-502	Bronchitis.....	722	772	4.5	4.7
B33	540, 541	Ulcer of stomach and duodenum.....	779	797	4.8	4.8
B34	550-553	Appendicitis.....	189	184	1.2	1.1
B35	560, 561, 570	Intestinal obstruction and hernia.....	837	763	5.2	4.6
B36	543, 571, 572	Gastritis, duodenitis, enteritis and colitis except diarrhoea of the newborn.....	910	869	5.7	5.2
B37	581	Cirrhosis of liver.....	838	969	5.2	5.8
B38	590-594	Nephritis and nephrosis.....	2,143	2,020	13.3	12.2
B39	610	Hyperplasia of prostate.....	632	517	3.9	3.1
B40	640-652, 660, 670-689	Complications of pregnancy, childbirth and the puerperium.....	278	255	1.7	1.5
B41	750-759	Congenital malformations.....	2,838	2,779	17.6	16.8
B42	760-762	Birth injuries, postnatal asphyxia and atelectasis.....	3,192	3,232	19.8	19.5
B43	763-768	Infections of the newborn.....	713	798	4.4	4.8
B44	769-776	Other diseases peculiar to early infancy and immaturity (unqualified).....	3,649	3,951	22.7	23.8
B45	780-795	Senility without mention of psychosis, ill-defined and unknown causes.....	1,813	1,700	11.3	10.2
B46	Residual	All other diseases.....	10,489	10,685	65.2	64.4
BE47	E810-E835	Motor vehicle accidents.....	3,559	3,694	22.1	22.3
BE48	E800-E802 E840-E962	All other accidents.....	5,712	5,961	35.5	35.9
BE49	E963, E970-E979	Suicide and self-inflicted injury.....	1,226	1,247	7.6	7.5
BE50	E964, E965 E980-E999	Homicide and operations of war.....	188	183	1.2	1.1
Totals, All Causes.....			131,961	136,579	820.2	823.3

¹ Less than 0.1 per 100,000. ² Includes Hodgkin's disease, leukaemia and aleukæmia. ³ Excludes Hodgkin's disease, leukaemia and aleukæmia.

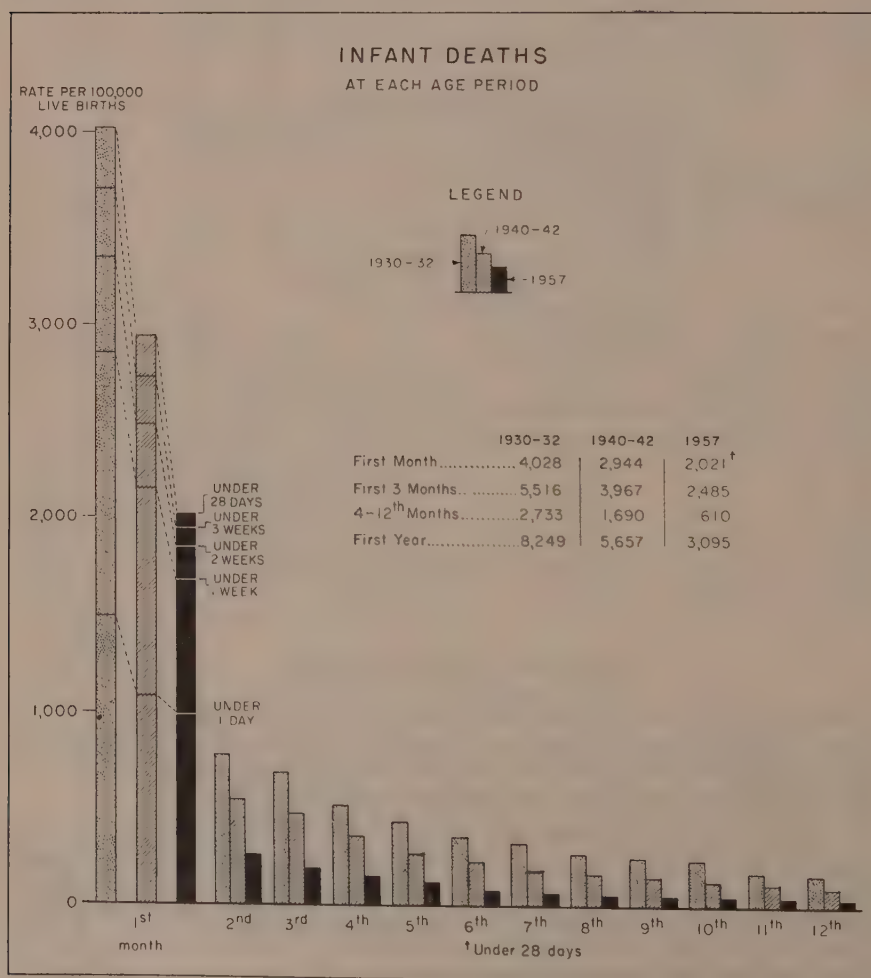
Subsection 2.—Infant Mortality

Table 1, pp.198-199, shows the striking improvement that has taken place in the rate of infant mortality during the past quarter-century. Although 56,734 of the 1,799,000 children born in the years 1954-57 died before reaching their first birthday, 110,570 others lived who *would have died* at the rate prevailing in the period 1926-30.

Table 14 shows that mortality among male infants is 25 to 30 p.c. higher than that among females for Canada as a whole, with wider variations for the individual provinces. As pointed out earlier, there are on the average 1,057 males born to every 1,000 females, but because male infant mortality is higher the excess of males is reduced drastically by the end of the first year. For example, in 1955-57 there were 700,152 male children born compared with 662,617 female children, an excess of 37,535 or 5.7 p.c.; during this period

24,388 male children died during their first year compared with 18,412 female children, that is, 5,976 more. The excess of males at one year of age was thus reduced to 31,559 or 4.8 p.c.

As indicated in Tables 1 and 14, infant mortality rates vary considerably from province to province and from one locality to another. One of the principal causes of these variations appears to be the different proportions of births that take place in hospital or under proper medical care (*see also* p. 204). Along with increased hospitalization has come better and more widespread prenatal and postnatal care. Many other factors have also been important, particularly the supervision of water supplies, improved sanitation, the pasteurization of milk, the use of antibiotics, more and better pædiatric services, improved obstetrical and hospital nursing services, improved home environment because of generally higher living standards and, in recent years, the lower age of mothers.



14.—Distribution of Infant Deaths, by Sex and Province, 1931-57

Province and Year	Males	Fe- males	Rate per 1,000 Male Live Births	Rate per 1,000 Female Live Births	Province or Territory and Year	Males	Fe- males	Rate per 1,000 Male Live Births	Rate per 1,000 Female Live Births	
	No.	No.				No.	No.			
Newfoundland.....1951	361	276	60	48	Manitoba—concl. 1956	365	311	33	29	
1956	335	295	45	41	1957	416	295	36	27	
1957	363	241	47	32						
P. E. Island.....1931	78	50	78	57	Saskatchewan.....1931	851	612	78	59	
1941	102	61	95	63	1941	531	415	56	46	
1951	60	30	44	23	1951	353	323	32	30	
1956	60	45	46	33	1956	391	289	32	25	
1957	41	34	30	26	1957	358	251	29	22	
Nova Scotia.....1931	510	404	86	71	Alberta.....1931	675	522	76	63	
1941	545	363	77	53	1941	506	373	57	44	
1951	344	250	39	30	1951	531	358	39	27	
1956	325	229	33	25	1956	508	352	28	21	
1957	298	228	30	24	1957	531	432	29	25	
New Brunswick...1931	565	379	102	72	British Columbia..1931	292	222	55	44	
1941	515	421	83	69	1941	316	236	41	32	
1951	472	363	58	46	1951	487	352	34	26	
1956	358	298	42	37	1956	509	435	28	24	
1957	333	256	37	32	1957	619	477	32	25	
Quebec.....1931	5,417	4,026	126	99	Yukon.....1951	10	9	58	53	
1941	3,916	2,854	85	66	1956	11	12	42	55	
1951	3,335	2,486	54	42	1957	17	10	66	42	
1956	3,130	2,414	45	37						
1957	3,094	2,318	42	34	Northwest Territories.	1951	43	27	136	81
Ontario.....1931	2,744	2,089	77	62	1956	68	49	166	131	
1941	1,910	1,384	51	40	1957	66	63	151	136	
1951	2,010	1,535	34	28						
1956	2,048	1,562	28	22	Canada.....1931	11,667	8,693	94	74	
1957	2,177	1,599	28	22	1941	8,788	6,448	67	52	
Manitoba.....1931	535	389	74	55	1951	8,375	6,298	43	34	
1941	447	341	59	47	1956	8,108	6,291	35	29	
1951	369	289	36	30	1957	8,313	6,204	34	27	

¹ Excludes Newfoundland and the Yukon and Northwest Territories.

Infant Mortality in Urban Centres.—Because of the relatively small numbers of infant deaths in individual cities and towns, the rates for these centres usually vary widely from year to year. As is evident from Table 2, pp. 200-202, many cities and towns have maintained consistently low rates as compared with the national rate or the rate for the province in which they are situated.

Causes of Infant Deaths.—Of the 14,517 infant deaths in 1957 a congenital malformation was the underlying cause of death in 2,265 cases, immaturity in 2,435, pneumonia among infants over four weeks of age, 1,460, postnatal asphyxia and atelectasis 1,751, and injury at birth 1,478; these causes together made up almost 65 p.c. of the total. The Chart opposite shows the relative importance of the major causes of infant deaths from 1931-57, and the Chart on p. 214 shows the comparative numbers of children dying at each month of age during the first year of life.

15.—Infant Mortality and Rates per 100,000 Live Births, by Cause, 1955-57

Inter- national List No.	Cause of Death	Numbers of Deaths			Rates per 100,000 Live Births		
		1955 ¹	1956	1957	1955 ¹	1956	1957
001-019	Tuberculosis.....	21	18	25	5	4	5
020-029	Syphilis.....	5	6	2	1	1	2
045-048	Dysentery.....	11	22	16	2	5	3
050	Scarlet fever.....	1	1	1	2	2	2
052	Erysipelas.....	1	1	—	2	2	—
055	Diphtheria.....	1	—	—	2	—	—
056	Whooping cough.....	107	93	44	24	21	9
057	Meningococcal infections.....	42	38	38	10	8	8
085	Measles.....	66	72	35	15	16	7
140-239	Neoplasms.....	40	41	43	9	9	9
273	Diseases of thymus gland.....	38	33	16	9	7	3
325	Mental deficiency.....	17	44	40	4	10	9
340	Meningitis (non-meningococcal).....	142	140	99	32	31	21
391, 392	Otitis media.....	151	122	132	34	27	28
470-475	Acute upper respiratory infections.....	66	67	79	15	15	17
480-483	Influenza.....	210	168	285	48	37	61
490-493	Pneumonia (4 weeks and over).....	1,567	1,600	1,460	355	355	311
500-502	Bronchitis.....	100	152	97	23	34	21
543	Gastritis and duodenitis.....	5	3	3	1	1	1
560-570	Hernia and intestinal obstruction.....	92	135	97	21	30	21
571	Gastro-enteritis and colitis.....	490	484	445	111	107	95
572	Chronic enteritis, and ulcerative colitis.....	3	4	2	1	1	2
750-759	Congenital malformations.....	2,165	2,310	2,265	490	512	483
760, 761	Injury at birth.....	1,426	1,548	1,478	323	343	315
762	Postnatal asphyxia and atelectasis.....	1,594	1,642	1,751	361	364	373
763	Pneumonia of newborn (under 4 weeks).....	481	512	551	109	114	117
764	Diarrhoea of newborn (under 4 weeks).....	134	149	187	30	33	40
765-768	Other infections of the newborn.....	41	52	60	9	12	13
769	Antenatal toxæmia.....	170	137	150	38	30	32
770	Erythroblastosis.....	343	334	356	78	74	76
771	Hæmorrhagic disease of newborn.....	117	109	142	26	24	30
772	Nutritional maladjustment.....	107	93	102	24	21	22
773	Ill-defined diseases peculiar to early infancy.....	703	748	764	159	166	163
774-776	Immaturity.....	1,979	2,224	2,435	448	493	519
795	Ill-defined and unknown causes.....	238	215	226	54	48	48
E810-E825	Motor vehicle traffic accidents.....	12	19	15	3	4	3
E900-E904	Accidental falls.....	17	15	8	4	3	2
E916	Accidents caused by fire.....	36	27	33	8	6	7
E921, E922	Inhalation and ingestion of food or other object.....	249	237	304	56	53	65
E924, E925	Accidental mechanical suffocation.....	116	156	143	26	35	30
	Other accidental and violent deaths.....	71	49	53	16	11	11
	Other specified causes.....	592	570	535	134	128	114
Totals, All Causes.....		13,767	14,399	14,517	3,116	3,193	3,095

¹ Excludes the Yukon and Northwest Territories.

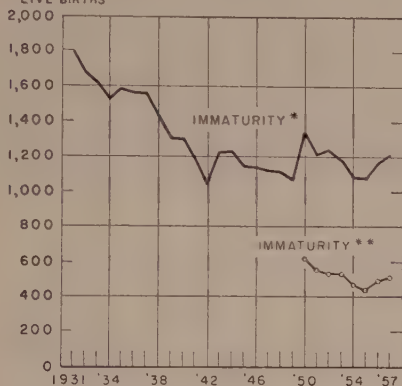
² Less than one per 100,000 live births.

Subsection 3.—Maternal Mortality

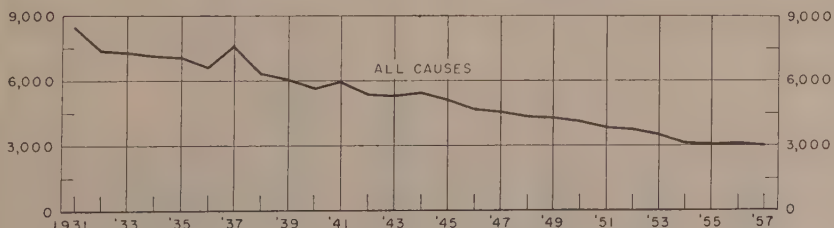
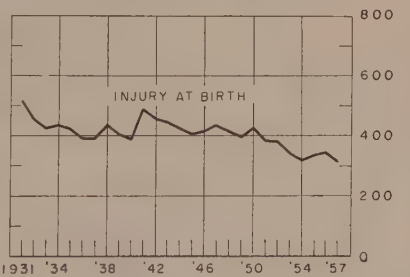
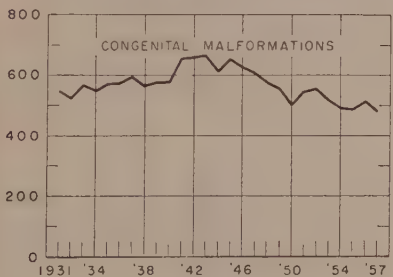
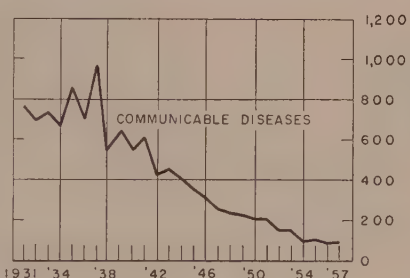
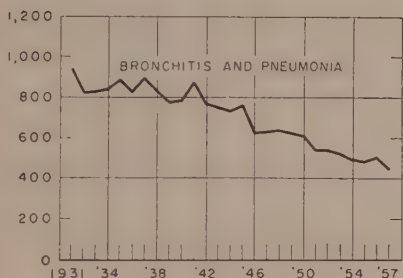
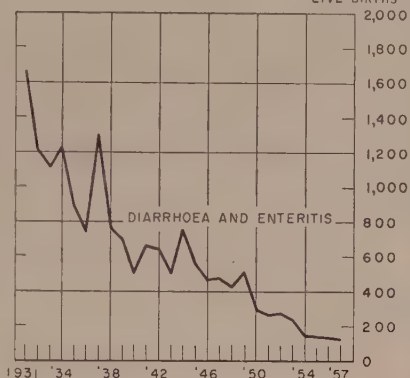
As indicated in Table 1, pp. 198-199, the number of mothers who die in pregnancy and childbirth has been greatly reduced during the past two decades. Although the number of births has been much greater in recent years, the number of maternal deaths has declined steadily since about 1930 (when there were 1,215 deaths and a rate of almost five deaths for every 1,000 live births) to a record low of 255 in 1957. Since 1945 the rate of maternal mortality has dropped below two per 1,000 live births and has been under one per 1,000 live births since 1951. During the past three years alone the rate has dropped from 76 per 100,000 live births to 54. Mortality among unmarried mothers is higher than among married mothers.

LEADING CAUSES OF INFANT DEATHS

RATE PER 100,000
LIVE BIRTHS



RATE PER 100,000
LIVE BIRTHS



* DUE TO CHANGES IN CLASSIFICATION, NOT STRICTLY COMPARABLE OVER THE PERIOD; INCLUDES ALL DEATHS INVOLVING IMMATURITY EITHER AS THE UNDERLYING CAUSE OR AS A COMPLICATION.

** INCLUDES CATEGORIES 774-776, INTERNATIONAL STATISTICAL CLASSIFICATION (6th. Rev.) WHERE IMMATURITY REPORTED ALONE AS UNDERLYING CAUSE.

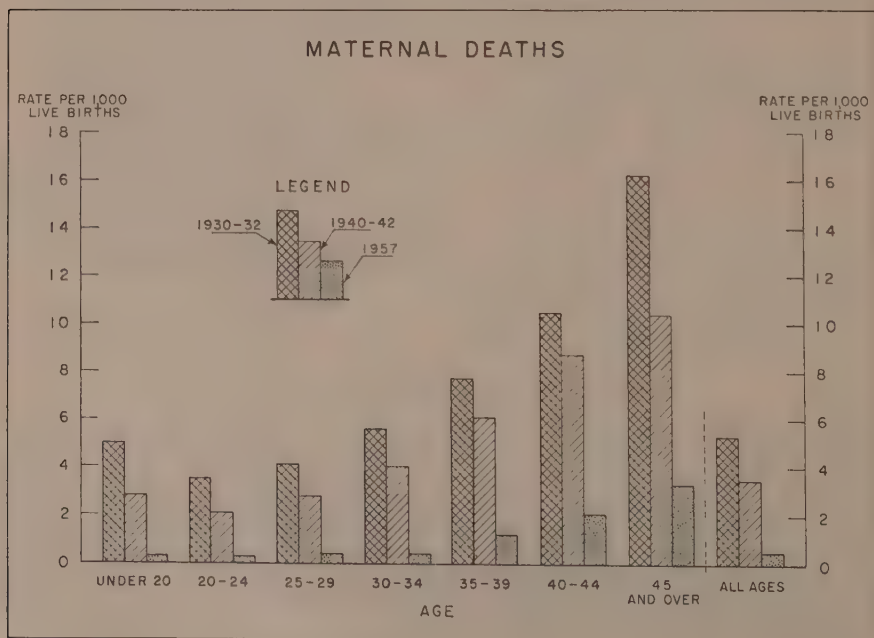
Age at Death.—Table 16 shows the distribution of maternal deaths by age groups and average age at death. The latter is about four years higher than the average age of all mothers at the time of childbirth. The rates per 1,000 live births by age groups show that age is a most important factor in maternal mortality. Until very recent years the risk of mortality at childbirth was directly related to the age of the mother; in other words for all mothers of over 20 years the rate rose with increasing age. Though rates for all age groups of mothers have been declining, recently there have been rather significant changes in the rates. Whereas formerly the death rates for mothers in the age group 30-34 was twice or three times as high as the rate for the 20-24 group, in 1957 the pattern changed; in that year the mortality rates for the four age groups of mothers under 35 were quite uniform, but rose sharply with age for those over 35.

16.—Maternal Mortality and Rates per 1,000 Live Births, by Age Group, 1955-57

Age Group	Maternal Deaths						Rates per 1,000 Live Births		
	1955 ¹		1956 ²		1957 ²		1955 ¹	1956 ²	1957 ²
	No.	p.c.	No.	p.c.	No.	p.c.			
Under 20 years.....	13	4.2	12	4.7	10	4.3	0.44	0.38	0.29
20 — 24 ".....	47	15.4	29	11.4	44	18.7	0.40	0.24	0.35
25 — 29 ".....	62	20.3	59	23.1	51	21.7	0.50	0.46	0.39
30 — 34 ".....	76	24.8	59	23.1	34	14.5	0.85	0.65	0.37
35 — 39 ".....	74	24.2	56	22.1	60	25.5	1.54	1.14	1.17
40 — 44 ".....	29	9.5	38	14.9	32	13.6	1.89	2.51	2.07
45 — 49 ".....	4	1.3	2	0.8	4	1.7	3.54	1.73	3.39
50 years or over.....	1	0.3	—	—	—	—	—	—	—
Totals, All Ages.....	306	100.0	255	100.0	235	100.0	0.72	0.58	0.52
Average age at death.....	31.8		32.3		31.9		...	...	...

¹ Excludes Newfoundland and the Yukon and Northwest Territories.

² Excludes Newfoundland only.



Causes of Maternal Deaths.—Table 17 shows the main causes of maternal deaths during the years 1955-57. Until a decade or so ago, sepsis and toxæmia were by far the most important causes of death of mothers at childbirth. The danger of death from sepsis and other infection has been drastically reduced over the past 15 to 20 years through the use of antibiotics and probably also through increased use of medical services. Toxæmia however, is still the major fatal complication of pregnancy and is second only to complications arising during delivery. Hæmorrhage during pregnancy or delivery, which has been another important cause of mortality among mothers, has also shown some reduction in recent years.

17.—Maternal Mortality and Rates per 100,000 Live Births, by Cause, 1955-57

Inter- national List No.	Cause of Death	Numbers of Deaths			Rates per 100,000 Live Births		
		1955 ¹	1956	1957	1955 ¹	1956	1957
	Complications of Pregnancy	139	80	71	31	18	15
640, 641	Infections of the genito-urinary tract during pregnancy.....	—	1	1	—	2	2
642	Toxæmias of pregnancy.....	93	53	42	21	12	9
643	Placenta prævia noted before delivery.....	4	—	1	1	—	2
644	Other hæmorrhage of pregnancy.....	8	4	1	2	1	1
645	Ectopic pregnancy.....	11	10	13	2	2	3
646-649	Other complications of pregnancy.....	23	12	13	5	3	3
	Abortion	28	25	39	6	6	8
650, 652	Abortion without mention of sepsis.....	13	11	19	3	2	4
651	Abortion with sepsis.....	15	14	20	3	3	4
	Complications of Delivery	111	132	109	25	29	23
660	Delivery (without complication).....	4	7	—	1	2	—
670	Delivery complicated by placenta prævia or antepartum hæmorrhage.....	20	26	30	5	6	6
671	Delivery complicated by retained placenta.....	8	8	5	2	2	1
672	Delivery complicated by other postpartum hæmorrhage.....	32	29	16	7	6	3
673, 674	Delivery complicated by abnormality of bony pelvis or malposition of foetus.....	7	9	7	2	2	1
675	Delivery complicated by prolonged labour of other origin.....	5	11	9	1	2	2
676, 677	Delivery with laceration or other trauma.....	15	21	13	3	5	3
678	Delivery with other complications of childbirth.....	20	21	29	5	5	6
	Complications of the Puerperium	57	41	36	13	9	8
681	Sepsis of childbirth and the puerperium.....	8	9	8	2	2	2
682-684	Puerperal phlebitis, thrombosis, pyrexia, pulmonary embolism.....	29	19	12	7	4	3
685, 686	Puerperal eclampsia and toxæmia.....	8	5	10	2	1	2
687-689	Other.....	12	8	6	3	2	1
	Totals, All Puerperal Causes	335	278	255	76	62	54

¹ Excludes the Yukon and Northwest Territories.

² Less than one per 100,000 live births.

Section 4.—Natural Increase*

The rate of natural increase in Canada (excess of births over deaths) prior to 1930 was 13 or more per 1,000 population. Partly as a result of the depression, the birth rate declined more than the death rate and the rate of natural increase fell to 9.7 in 1937. Higher birth rates during and after World War II and a gradually declining death rate caused the natural increase rate to rise steadily from 10.9 in 1939 to a record 20.3 in 1954. It dropped slightly in 1955 and 1956 to 19.8 but, with an increase in the birth rate and a stationary death rate, it rose to 20.1 in 1957.

* For international comparisons, see Section 7, pp. 228-229.

BIRTH, DEATH AND NATURAL INCREASE RATES

RATE PER 1000
POPULATION

RATE PER 1000
POPULATION

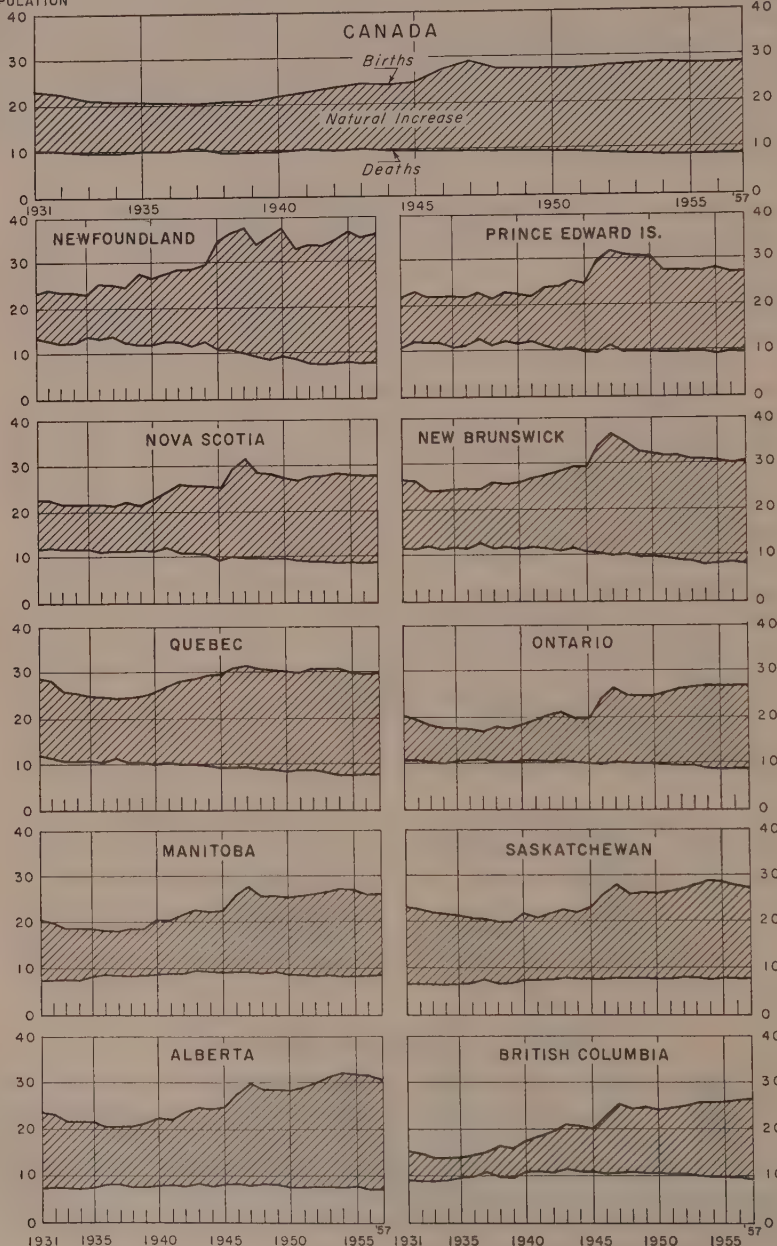


Table 18 shows the rates of natural increase in the provinces and for each sex separately. The high rates in the Prairie Provinces are partly accounted for by their relatively younger populations and consequent low death rates. In Quebec the death rate in the period 1926-30 was high but it has since declined steadily. High birth rates and in Quebec the declining death rates have given Newfoundland, Alberta, Quebec and New Brunswick the highest rates of natural increase in Canada in recent years (excluding the Yukon and Northwest Territories).

The rates of natural increase are higher for females than for males in all provinces because of the higher death rates for males. In the western provinces particularly, the ratio of males to females in the total population is higher than in other parts of Canada and this tends to lower the rate of natural increase. In Canada, a country with a fairly young population and where immigration has been on a large scale, an excess of males is to be expected but the higher rate of natural increase for females may gradually reduce this excess. The trend is towards an eventual excess of females in the total population—as there now is in most European countries—unless immigration again raises the male ratio or death rates among males are drastically reduced.

18.—Natural Increase and Rates per 1,000 Population, by Sex and Province, 1931-57

Province and Year	Excess of Births Over Deaths	Rate per 1,000 Population	Males		Females	
			Number	Rate per 1,000 Males	Number	Rate per 1,000 Females
Newfoundland.....1951	8,734	24.2	4,369	23.6	4,365	24.8
.....1956	11,483	27.6	5,722	26.8	5,761	28.6
.....1957	12,117	28.5	5,906	26.9	6,211	30.1
Prince Edward Island.....1931	967	10.9	517	11.4	450	10.6
.....1941	915	9.6	483	9.8	432	9.4
.....1951	1,747	17.9	872	17.4	875	18.2
.....1956	1,724	17.4	765	15.1	959	19.7
.....1957	1,760	17.7	836	16.7	924	18.9
Nova Scotia.....1931	5,647	11.0	2,836	10.8	2,811	11.3
.....1941	6,989	12.1	3,335	11.3	3,654	13.0
.....1951	11,313	17.6	5,596	17.2	5,717	18.0
.....1956	13,368	19.2	6,719	19.0	6,649	19.5
.....1957	13,339	19.0	6,423	18.0	6,916	20.1
New Brunswick.....1931	6,157	15.1	3,099	14.9	3,058	15.3
.....1941	7,088	15.5	3,396	14.5	3,692	16.5
.....1951	11,202	21.8	5,522	21.3	5,680	22.1
.....1956	11,915	21.5	6,014	21.5	5,901	21.5
.....1957	12,425	22.0	6,250	21.9	6,175	22.1
Quebec.....1931	49,119	17.1	24,984	17.3	24,135	16.9
.....1941	54,871	16.5	27,561	16.5	27,310	16.5
.....1951	86,030	21.2	42,961	21.2	43,069	21.2
.....1956	100,842	21.8	50,220	21.7	50,622	21.9
.....1957	105,473	22.2	52,320	21.9	53,153	22.4
Ontario.....1931	33,504	9.8	16,472	9.4	17,032	10.1
.....1941	33,036	8.7	15,705	8.2	17,331	9.3
.....1951	70,846	15.4	34,737	15.0	36,109	15.8
.....1956	96,285	17.9	46,813	17.2	49,472	18.4
.....1957	101,756	18.1	49,498	17.5	52,258	18.7
Manitoba.....1931	9,057	12.9	4,239	11.5	4,818	14.5
.....1941	8,317	11.4	3,834	10.1	4,483	12.7
.....1951	13,207	17.0	6,388	16.2	6,819	17.9
.....1956	14,887	17.5	6,929	16.0	7,958	19.1
.....1957	14,994	17.4	7,014	16.0	7,980	18.9
Saskatchewan.....1931	15,265	16.5	7,499	15.0	7,766	18.4
.....1941	12,006	13.4	5,651	11.8	6,355	15.2
.....1951	15,293	18.4	7,192	16.6	8,101	20.4
.....1956	17,393	19.7	8,251	18.0	9,142	21.7
.....1957	17,178	19.5	8,175	17.9	9,003	21.3

18.—Natural Increase and Rates per 1,000 Population, by Sex and Province, 1931-57—concluded

Province or Territory and Year	Excess of Births Over Deaths	Rate per 1,000 Population	Males		Females	
			Number	Rate per 1,000 Males	Number	Rate per 1,000 Females
Alberta.....1931	11,950	16.4	5,843	14.6	6,107	18.4
.....1941	10,923	13.7	5,016	11.8	5,907	16.0
.....1951	19,836	21.2	9,331	19.0	10,505	23.5
.....1956	27,165	24.2	13,069	22.3	14,096	26.2
.....1957	27,463	23.7	13,153	21.7	14,310	25.8
British Columbia.....1931	4,290	6.2	1,604	4.2	2,686	8.7
.....1941	6,533	8.0	2,342	5.4	4,191	10.9
.....1951	16,439	14.1	7,107	11.9	9,332	16.4
.....1956	22,826	16.3	10,183	14.1	12,643	18.6
.....1957	25,033	16.9	11,145	14.5	13,888	19.3
Yukon.....1951	257	28.6	115	20.9	142	39.4
.....1956	396	33.0	200	29.0	196	37.0
.....1957	401	33.4	195	28.7	206	39.6
Northwest Territories.....1951	365	22.8	164	18.2	201	28.7
.....1956	494	26.0	236	21.1	258	31.9
.....1957	575	30.3	258	23.5	317	39.6
Canada.....1931 ¹	135,956	13.1	67,093	12.5	68,863	13.8
.....1941 ¹	140,678	12.2	67,323	11.4	73,355	13.1
.....1951	255,269	18.2	124,354	17.5	130,915	18.9
.....1956	318,778	19.8	155,121	19.0	163,657	20.6
.....1957	332,514	20.1	161,173	19.2	171,341	21.0

Excludes Newfoundland and the Yukon and Northwest Territories.

Natural Increase in Urban Centres.—The classification of births and deaths by place of residence makes it possible to compile the natural increase in the population of urban centres; the figures are presented in Table 2, pp. 200-202.

Section 5.—Marriages and Divorces*

Subsection 1.—Marriages

Table 19 shows the number of marriages and the marriage rates per 1,000 population in Canada and the provinces, and percentages of brides and bridegrooms, according to place of birth. For the country as a whole, 81 p.c. of the grooms of 1957 were born in Canada—66 p.c. in the province in which they were married; over 85 p.c. of the brides were born in Canada—73 p.c. in the province in which they were married. However, as would be expected because of heavy immigration of young persons since the beginning of World War II, an increasing number of marriages are of persons born outside the country. For example, 11.7 p.c. of the grooms married in 1941 were born outside Canada; in 1957 the proportion was 18.7. Among the brides the percentage rose from 8.4 to 14.9. However there are wide variations from this pattern as between provinces; in the older Atlantic Provinces and Quebec there is a greater tendency than in the other provinces to marry native Canadians. In these areas both partners in a marriage are often born in the same province.

* For international comparisons, see Section 7, pp. 228-229.

**19.—Marriages and Marriage Rates, by Province, with Percentage Distribution of
Bridegrooms and Brides by Nativity, 1931-57**

Province or Territory and Year	Total Marriages	Rate per 1,000 Popu- lation	Born in Province Where Married		Born in Other Provinces		Born Outside Canada	
			Grooms	Brides	Grooms	Brides	Grooms	Brides
	No.		p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
Newfoundland.....1951	2,517	7.0	85.2	96.7	2.4	1.9	12.4	1.4
.....1956	3,073	7.4	84.3	96.4	3.3	1.6	12.4	2.0
.....1957	3,041	7.1	84.4	96.7	3.6	1.2	12.0	2.1
Prince Edward Island.....1931	490	5.6	89.4	91.8	5.1	4.1	5.5	4.1
.....1941	673	7.1	78.8	86.6	15.0	9.4	6.2	4.0
.....1951	583	5.9	82.3	91.1	12.9	6.0	4.8	2.9
.....1956	649	6.6	80.7	92.8	14.8	4.8	4.5	2.5
.....1957	627	6.3	81.7	93.6	13.7	4.5	4.6	1.9
Nova Scotia.....1931	3,394	6.6	80.3	86.7	5.4	3.6	14.3	9.7
.....1941	6,596	11.4	73.2	83.8	16.8	9.5	10.0	6.7
.....1951	5,094	7.9	78.2	86.7	15.9	9.0	6.0	4.3
.....1956	5,543	8.0	74.8	88.1	18.9	9.1	6.4	2.9
.....1957	5,206	7.4	75.7	87.3	18.8	8.9	5.5	3.8
New Brunswick.....1931	2,544	6.2	77.7	81.8	10.1	9.2	12.2	9.0
.....1941	4,941	10.8	78.5	84.4	13.3	9.7	8.2	5.9
.....1951	4,386	8.5	80.0	86.9	10.1	6.7	9.8	6.4
.....1956	4,591	8.3	75.9	86.8	12.2	6.3	11.9	6.9
.....1957	4,284	7.6	77.0	86.9	11.7	6.3	11.2	6.8
Quebec.....1931	16,783	5.8	79.7	83.4	4.2	3.7	16.0	13.0
.....1941	32,782	9.8	86.1	89.3	6.7	5.9	7.2	4.8
.....1951	35,704	8.8	86.7	89.5	6.1	5.5	7.2	5.0
.....1956	37,290	8.1	85.6	88.8	5.7	5.0	8.7	6.2
.....1957	37,135	7.8	84.0	87.2	5.8	4.9	10.2	7.8
Ontario.....1931	23,771	6.9	57.4	63.4	7.7	7.7	34.9	28.8
.....1941	43,270	11.4	89.2	89.0	4.2	4.5	6.7	6.5
.....1951	45,198	9.8	65.9	72.4	14.6	12.2	19.5	15.4
.....1956	46,282	8.6	61.9	68.1	14.0	12.2	24.2	19.8
.....1957	46,780	8.3	59.7	65.7	13.4	11.7	26.8	22.6
Manitoba.....1931	4,888	7.0	41.6	55.7	10.9	9.2	47.5	35.1
.....1941	8,305	11.4	63.0	73.7	17.4	15.0	19.6	11.4
.....1951	7,336	9.5	67.9	75.1	15.4	13.3	16.8	11.6
.....1956	6,709	7.9	64.7	74.9	19.7	14.4	15.6	10.7
.....1957	6,594	7.7	65.3	75.4	18.8	12.8	15.9	11.8
Saskatchewan.....1931	5,700	6.2	27.6	48.3	22.5	16.9	49.9	34.7
.....1941	7,036	7.9	64.7	79.1	16.1	10.0	19.1	10.9
.....1951	6,805	8.2	73.3	86.4	10.7	6.4	11.1	7.2
.....1956	6,403	7.3	76.5	87.9	13.7	5.4	9.8	6.7
.....1957	6,510	7.4	76.4	86.8	13.2	6.5	10.4	6.7
Alberta.....1931	5,142	7.0	22.1	38.5	19.4	17.6	58.5	43.9
.....1941	8,470	10.6	50.0	63.4	23.9	19.9	26.2	16.8
.....1951	9,305	9.9	56.0	67.4	25.7	19.8	18.3	13.0
.....1956	9,965	8.9	53.7	63.9	25.9	20.6	20.4	15.5
.....1957	10,117	8.7	52.9	62.8	26.1	20.6	21.0	16.5
British Columbia.....1931	3,879	5.6	22.2	30.6	21.1	24.7	56.7	44.7
.....1941	9,769	11.9	35.9	43.5	35.6	37.1	28.5	19.4
.....1951	11,272	9.7	35.5	41.6	43.1	43.0	21.3	15.5
.....1956	11,950	8.5	33.7	41.2	40.9	38.9	25.4	19.9
.....1957	12,620	8.5	32.3	39.2	39.3	37.5	28.4	23.3
Yukon.....1956	112	9.3	17.0	25.0	58.0	58.0	25.0	17.0
.....1957	110	9.2	14.5	22.7	66.4	67.3	19.1	10.0

**19.—Marriages and Marriage Rates, by Province, with Percentage Distribution of
Bridegrooms and Brides by Nativity, 1931-57—concluded**

Province or Territory and Year	Total Marriages	Rate per 1,000 Popu- lation	Born in Province Where Married		Born in Other Provinces		Born Outside Canada	
			Grooms	Brides	Grooms	Brides	Grooms	Brides
			p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
Northwest Territories.....1956	146	7.7	65.1	73.3	19.9	19.2	15.1	7.5
1957	162	8.5	64.2	72.8	26.5	19.8	9.3	7.4
Canada.....1931	66,591	6.4	56.7	64.9	10.0	9.2	33.3	26.0
1941	121,842	10.6	76.8	81.5	11.4	10.1	11.7	8.4
1951 ¹	128,230	9.2	70.5	76.5	15.1	12.8	14.5	10.6
1956 ¹	132,713	8.3	67.8	74.7	15.2	12.4	17.0	12.9
1957 ¹	133,186	8.0	66.3	72.8	15.0	12.2	18.7	14.9

¹ Newfoundland included from 1951 and the Yukon and Northwest Territories for 1956 and 1957.

Age and Marital Status of Bridegrooms and Brides.—Table 20 shows that almost 92 p.c. of the marriages in 1957 were between persons who had not been married previously; about 4.5 p.c. of both brides and bridegrooms had been widowed, and almost 4 p.c. of the marriages were of divorced persons. The average age at marriage of bachelors was just over 26 and that of spinsters 23 years and four months. The average age of widowers and widows at the time of remarriage was slightly more than double that of bachelors and spinsters. Over 91 p.c. of spinsters married in 1957 were under 30 years of age, 32 p.c. were under 20 years and 45 p.c. were between 20 and 25. Over 83 p.c. of bachelors were under 30 years of age, 6.5 p.c. of them under 20 and 48 p.c. from 20 to 24 years of age.

In recent years, couples are marrying younger than they did a generation ago. Since 1940 the average age of men at the time of their first marriage has dropped from 28 years to just past their 26th birthday; that of girls from 24 years and eight months to 23 years and four months.

20.—Brides and Bridegrooms, by Age and Marital Status, 1957

Age Group	BRIDES							
	Numbers				Percentages			
	Spinsters	Widows	Divorced	Total	Spinsters	Widows	Divorced	Total
Under 20 years.....	38,896	18	21	38,935	31.9	0.3	0.4	29.2
20 — 24 ".....	55,044	159	514	55,717	45.1	2.6	10.4	41.8
25 — 29 ".....	17,210	337	1,162	18,709	14.1	5.5	23.5	14.0
30 — 34 ".....	5,846	506	1,141	7,493	4.8	8.3	23.1	5.6
35 — 39 ".....	2,497	688	829	4,014	2.0	11.2	16.8	3.0
40 — 44 ".....	1,220	747	591	2,558	1.0	12.2	12.0	1.9
45 — 49 ".....	714	809	407	1,930	0.6	13.2	8.2	1.4
50 — 54 ".....	378	801	161	1,340	0.3	13.1	3.3	1.0
55 — 59 ".....	169	675	70	914	0.1	11.0	1.4	0.7
60 — 64 ".....	78	580	27	685	0.1	9.5	0.5	0.5
65 years or over.....	70	804	13	887	0.1	13.1	0.3	0.7
Age not stated.....	4	—	—	4	—	—	—	—
Totals, All Ages.....	122,126	6,124	4,936	133,186	91.7	4.6	3.7	100.0
Average ages.....	23.3	48.8	34.8	24.9	...	...	...	...

20.—Brides and Bridegrooms, by Age and Marital Status, 1957—concluded

Age Group	BRIDEGROOMS							
	Numbers				Percentages			
	Bachelors	Widowers	Divorced	Total	Bachelors	Widowers	Divorced	Total
Under 20 years.....	8,017	—	2	8,019	6.5	—	—	6.0
20 — 24 “.....	59,117	32	161	59,310	48.3	0.6	3.2	44.5
25 — 29 “.....	35,491	144	861	36,496	29.0	2.5	17.1	27.4
30 — 34 “.....	11,324	274	1,090	12,688	9.2	4.8	21.6	9.5
35 — 39 “.....	4,234	344	992	5,570	3.5	6.0	19.6	4.2
40 — 44 “.....	1,923	436	749	3,108	1.6	7.6	14.8	2.3
45 — 49 “.....	1,040	589	594	2,223	0.8	10.3	11.8	1.7
50 — 54 “.....	663	683	319	1,665	0.5	12.0	6.3	1.3
55 — 59 “.....	297	778	150	1,225	0.2	13.6	3.0	0.9
60 — 64 “.....	166	774	77	1,017	0.1	13.6	1.5	0.8
65 years or over.....	161	1,646	54	1,861	0.1	28.9	1.1	1.4
Age not stated.....	4	—	—	4	—	—	—	—
Totals, All Ages.....	122,437	5,700	5,049	133,186	91.9	4.3	3.8	100.0
Average ages.....	26.1	55.6	38.4	27.8	...	...	...	...

Religious Denominations of Brides and Bridegrooms.—The distribution of brides and bridegrooms by religious denominations is roughly the same as that for the population as a whole. Table 21 shows the very strong influence that religion has on marriage. About 72 p.c. of all marriages are between persons of the same religious denomination; in 1957 among those of Jewish faith it was about 93 p.c.; among Roman Catholics 88 p.c.; United Church about 62 p.c.; and Eastern Orthodox about 63 p.c.

21.—Marriages by Religious Denominations of Contracting Parties, 1957

Denomination of Bridegroom	Denomination of Bride										Total Marriages	P.C. of Grooms
	Angli-can	Bap-tist	East-ern Orth-odox	Jew-ish	Luth-eran	Pres-by-ter-ian	Roman Cath-olic ¹	United Church	Other Sects	Not Stated		
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.		
Anglican.....	7,951	583	101	9	408	769	1,840	3,505	514	5	15,685	11.8
Baptist.....	623	2,139	22	—	120	180	416	890	283	1	4,674	3.5
Eastern Orthodox...	142	23	1,400	2	87	40	361	197	78	1	2,331	1.8
Jewish.....	41	2	4	1,571	8	10	61	26	20	1	1,744	1.3
Lutheran.....	514	150	82	2	2,852	166	894	896	290	1	5,847	4.4
Presbyterian.....	862	196	24	3	159	2,093	663	1,250	185	1	5,436	4.1
Roman Catholic ¹ ...	1,842	390	238	23	946	553	55,708	2,086	843	8	62,637	47.0
United Church.....	3,367	794	177	6	675	991	2,222	15,525	870	—	24,627	18.5
Other.....	646	288	58	11	315	227	1,070	1,129	6,430	2	10,176	7.6
Not stated.....	11	1	—	—	1	1	9	3	—	3	29	—
Totals.....	15,999	4,566	2,106	1,627	5,571	5,030	63,244	25,507	9,513	23	133,186	100.0
P.C. of brides.....	12.0	3.4	1.6	1.2	4.2	3.8	47.5	19.2	7.1	—	100.0	71.8 ²

¹ Includes Greek Catholics.
denomination.

² Percentage of marriages between contracting parties of the same religious

Subsection 2.—Dissolutions of Marriage (Divorces)

Before World War I the number of divorces granted in Canada was very small. There were fewer than 20 divorces each year from Confederation to 1900, 21 in 1903, 51 in 1909 and 60 in 1913. These numbers represent less than one per 1,000 of the yearly number of marriages. At the end of World War I the number of divorces showed a steady increase, advancing to a peak of 8,199 in 1947, then declining gradually to a postwar low of 5,270 in 1951. From 1952 to 1957 the number has fluctuated between 5,600 and 6,673.

22.—Dissolutions of Marriage (Divorces), by Province, 1916-57

NOTE.—Figures for the years 1900-50 are given in the 1956 Year Book, p. 230.

Year	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Canada
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
Av. 1916-20.....	..	—	25	11	4	35	26	5	31	78	215
" 1921-25.....	..	—	34	15	10	104	91	41	105	138	539
" 1926-30.....	..	—	25	18	24	183	94	61	155	209	768
" 1931-35.....	..	1	37	22	31	320	119	61	168	280	1,038
" 1936-40.....	..	1	50	44	56	734	194	116	259	570	2,024
" 1941-45.....	..	2	92	104	99	1,398	305	207	432	937	3,576
" 1946-50.....	1	21	185	245	303	2,839	500	383	724	1,676	6,877
1951.....	4	10	187	156	289	2,109	361	226	589	1,339	5,270
1952.....	3	9	138	200	309	2,218	338	223	630	1,532	5,650
1953.....	9	15	185	181	273	2,824	374	218	603	1,478	6,160
1954.....	8	8	249	117	370	2,469	371	250	610	1,471	5,923
1955.....	1	7	283	181	396	2,531	337	237	627	1,483	6,053
1956.....	5	1	230	215	351	2,478	314	221	685	1,502	6,002
1957 ^a	6	2	250	206	519	2,858	305	242	726	1,559	6,673

Section 6.—Canadian Life Tables

Four official series of life tables for Canada and the provinces and regions have been published to date, based on deaths in the three-year period around each of the Censuses of 1931, 1941, 1951 and 1956. In addition, tables have been computed for Canada as a whole for the years 1945 and 1947 based on estimated populations by sex and age and the deaths recorded in those years. The life table values for 1956 are given in abbreviated form in Table 23.

Life tables give a summary of the health and general conditions of survival of the population in a conventional, standard form. A hypothetical number (100,000) of births of each sex is assumed as a starting point. The life tables show how, on the basis of the mortality rates at each age in the given years, these 100,000 of each sex are reduced in number by death. For example, during the year 1956, of 100,000 males born, 3,472 died in their first year so that 96,528 survived to one year of age; 241 died in their second year so that 96,287 survived to two years of age, and so on. At 100 years of age only 87 of the original 100,000 would have survived. The probability of death at each age is the ratio between the number of deaths and the population at each age. Finally, the expectation of life is the average number of years which a person might expect to live if the mortality rates in the given years remained constant.

Mortality rates at all ages for males have been almost consistently higher than for females. Males have the highest risk of mortality as compared with females during their first year of life, from their late 'teens to early 30's and from age 50 to 65. For both boys and girls the risk of mortality drops rapidly during childhood and is lowest at about age 10, increases gradually to about age 40 for males and about 50 for females and then rises steeply with advancing age. At the mortality rates given in the 1956 Life Table (see Table 23) about 13,000 males would have died before reaching age 50 as compared with about 8,700 females; only 56,466 of the original group of 100,000 males would have survived to age 70 as compared with about 70,327 females.

By 1956 life expectancy at birth in Canada had reached a new high record of 67.6 years for males and 72.9 for females—comparable to the expectancy for other countries of the world with highly developed medical and public health care. Once a child has passed its first year of life however its life expectancy increases appreciably. At one year of age a male child at present mortality risks may, on the average, expect to live an additional 69.0 years and a female 74.0 years, representing for an infant boy a gain of 1.4 years more than his expectation at birth and 1.1 more years for an infant girl. The expectation of life of a 15-year-old boy is 55.9 more years; of a 15-year-old girl 60.6 years. At 25 years of age the expectation is about 46.6 years for men and almost 51 for women and at age 70, 10.5 years for men and 12.2 for women.

23.—Canadian Life Table, 1956

Age	Males				Females			
	Number Living at Each Age	Number Dying Between Each Age and the Next	Probability of Dying Before Reaching Next Birthday	Expectation of Life	Number Living at Each Age	Number Dying Between Each Age and the Next	Probability of Dying Before Reaching Next Birthday	Expectation of Life
At birth.....	100,000		.03472	67.61	100,000		.02767	72.92
1 year.....	96,528	3,472	.00250	69.04	97,233	2,767	.00216	73.99
2 years.....	96,287	241	.00144	68.21	97,023	210	.00120	73.15
3 ".....	96,148	139	.00115	67.31	96,907	116	.00093	72.24
4 ".....	96,037	111	.00095	66.38	96,817	90	.00070	71.31
5 ".....	95,946	91	.00083	65.45	96,749	68	.00058	70.35
10 ".....	95,611	335	.00057	60.67	96,522	227	.00037	65.51
15 ".....	95,297	314	.00099	55.86	96,330	192	.00047	60.64
20 ".....	94,699	598	.00160	51.19	96,074	256	.00060	55.80
25 ".....	93,897	802	.00169	46.61	95,762	312	.00075	50.97
30 ".....	93,116	781	.00172	41.98	95,366	396	.00094	46.17
35 ".....	92,272	844	.00202	37.34	94,868	498	.00127	41.40
40 ".....	91,217	1,055	.00288	32.74	94,157	711	.00194	36.69
45 ".....	89,620	1,597	.00472	28.28	93,052	1,105	.00312	32.09
50 ".....	87,015	2,605	.00794	24.04	91,321	1,731	.00475	27.65
55 ".....	82,853	4,162	.01282	20.12	88,746	2,575	.00744	23.38
60 ".....	76,601	6,252	.02037	16.54	84,791	3,955	.01191	19.34
65 ".....	67,737	8,864	.03057	13.36	78,849	5,942	.01864	15.60
70 ".....	56,466	11,271	.04425	10.51	70,327	8,522	.02955	12.17
75 ".....	43,106	13,360	.06776	7.98	58,224	12,103	.05137	9.15
80 ".....	28,117	14,989	.10611	5.89	41,683	16,541	.08717	6.75
85 ".....	14,252	13,865	.16187	4.27	23,817	17,866	.13640	4.97
90 ".....	4,944	9,308	.23784	3.07	9,930	13,887	.19889	3.67
95 ".....	984	3,960	.33684	2.18	2,716	7,214	.27446	2.74
100 ".....	87	897	.46169	1.52	427	2,289	.36294	2.05

Table 24 summarizes the life expectancy figures extracted from the Canadian Life Tables for 1931, 1941, 1951 and 1956. Life expectancy at birth increased for men from 60 in 1931 to over 67.6 years in 1956 and from 62 to 72.9 years for women during the same period. This is a gain for males of 1.3 years since 1951 compared with gains of 3 and 3.3 years in the previous decades; females gained 2.1 years since 1951 compared with 4.2 and 4.5 years in the preceding decades. Thus, since 1931 a total of 7.6 years have been added to male life expectancy and female longevity has been lengthened by 10.8 years.

The increases in life expectancy have been predominantly at the younger ages, particularly in infancy, and diminish with advanced age. For example, since 1931, 3.2 years have been added to the life expectancy of a five-year-old male, 2.1 years to a 20-year-old, over 8 months to a 40-year-old and just over two months to a 60-year-old as compared with 7.6 years for a newborn male. During this period life expectancy for a five-year-old female gained 7.2 years; for a 20-year-old 6.0 years, 3.7 years for a 40-year-old and 2.1 years for a 60-year-old as compared with 10.8 years for a newborn female.

Longevity has improved for both sexes, though more so and at all ages for females, but there has been only slight improvement for males beyond middle life. Briefly the rapid decline in the death rate for infants of both sexes is continuing, with slower declines with advancing age, so that relatively stationary death rates have been established from about 50 years onwards for males and up to about 80 for females.

The fact that such a pattern exists is important in interpreting the results of these life tables. The arbitrary population base of 100,000 of each sex in the tables has been subjected to the mortality rates in effect in 1955-57, and the life expectancy computed as if those death rates at each age were to prevail during their lifetime. Actually the theoretical 200,000 infants born in 1955-57 will most probably have a pattern of survival and life expectancy quite different from that of the present life table as they will spend most of their lives under conditions of public health and medical care which in all likelihood will be superior to those prevailing in 1955-57.

The improvement in life expectancy, particularly among children and adolescents is due mainly to the substantial reduction in recent years of mortality from infectious diseases; on the other hand diseases associated with middle and old age are much less amenable to control. It is therefore unlikely that improvement in life expectancy in the future will be comparable to that of the past quarter-century. As approximately 11 p.c. of deaths in 1955-57 occurred among infants and an additional 75 p.c. among persons over age 50, any additional improvement must come as the result of further declines in mortality from conditions associated with childbirth and early infancy, further control of infectious diseases, prevention of accidents, and advances in combating diseases associated with middle and old age, such as cardiovascular renal conditions and cancer.

24.—Expectation of Life 1931, 1941, 1951 and 1956

Age	1931		1941		1951		1956	
	Male	Female	Male	Female	Male	Female	Male	Female
	yrs.	yrs.	yrs.	yrs.	yrs.	yrs.	yrs.	yrs.
At birth.....	60.00	62.10	62.96	66.30	66.33	70.83	67.61	72.92
1 year.....	64.69	65.71	66.14	68.73	68.33	72.33	69.04	73.99
2 years.....	64.46	65.42	65.62	68.16	67.56	71.55	68.21	73.15
3 ".....	63.84	64.75	64.88	67.38	66.68	70.66	67.31	72.24
4 ".....	63.11	63.99	64.07	66.56	65.79	69.74	66.38	71.31
5 ".....	62.30	63.17	63.22	65.69	64.86	68.80	65.45	70.35
10 ".....	57.96	58.72	58.70	61.08	60.15	64.02	60.67	65.51
15 ".....	53.41	54.15	54.06	56.36	55.39	59.19	55.86	60.64
20 ".....	49.05	49.76	49.57	51.76	50.76	54.41	51.19	55.80
25 ".....	44.83	45.54	45.18	47.26	46.20	49.67	46.61	50.97
30 ".....	40.55	41.38	40.73	42.81	41.60	44.94	41.98	46.17
35 ".....	36.23	37.19	36.26	38.37	37.00	40.24	37.34	41.40
40 ".....	31.98	33.02	31.87	33.99	32.45	35.63	32.74	36.69
45 ".....	27.79	28.87	27.60	29.67	28.05	31.14	28.28	32.09
50 ".....	23.72	24.79	23.49	25.46	23.88	26.80	24.04	27.65
55 ".....	19.88	20.84	19.64	21.42	20.02	22.61	20.12	23.38
60 ".....	16.29	17.15	16.06	17.62	16.49	18.64	16.54	19.34
65 ".....	12.98	13.72	12.81	14.08	13.31	14.97	13.36	15.60
70 ".....	10.06	10.63	9.94	10.93	10.41	11.62	10.51	12.17
75 ".....	7.57	7.98	7.48	8.19	7.89	8.73	7.98	9.15
80 ".....	5.61	5.92	5.54	6.03	5.84	6.38	5.89	6.75
85 ".....	4.10	4.38	4.05	4.35	4.27	4.57	4.27	4.97
90 ".....	2.97	3.24	2.93	3.13	3.10	3.24	3.07	3.67
95 ".....	2.14	2.40	2.09	2.26	2.24	2.27	2.18	2.74
100 ".....	1.53	1.77	1.46	1.64	1.60	1.59	1.52	2.05

Section 7.—International Comparisons of Vital Statistics

Table 25 gives a summary of Canada's national and provincial vital statistics rates along with those of several other countries. It will be noted that among the countries listed the low crude death rate in Canada is bettered by only one country, the Netherlands, and that some of the provinces have lower rates than most other countries. The birth rate also helps to make Canada one of the fastest growing countries and this country currently ranks sixth among those listed. However there is marked room for improvement in rates of infant mortality; although Canada had the eighth lowest rate among the countries listed, 13 countries had equal or lower rates.

25.—Principal Vital Statistics Rates of Selected Countries 1957

NOTE.—Countries are ranked according to the highest rates for births, marriages and natural increase and according to the lowest for deaths.

SOURCE: United Nations publications.

Country or Province	Births		Deaths		Infant Mortality		Neonatal Mortality ¹		Maternal Mortality		Marriages		Natural Increase	
	Rate ²	Rank	Rate ²	Rank	Rate ³	Rank	Rate ³	Rank	Rate ³	Rank	Rate ³	Rank	Rate ³	Rank
Australia.....	22.9	13	8.8	6	21	3	164	3	0.66	3	7.7	11	14.1	11
Austria.....	16.8	25	12.7	22	35	14	288	12	1.16	7	8.0	9	4.1	31
Belgium.....	16.9	24	12.4	21	35	11	236	9	0.98	5	7.6	12	4.5	30
Canada.....	23.3	6	8.2	2	31	8	20	7	0.5	2	8.0	9	20.1	6
Newfoundland.....	36.0	...	7.5	...	39	...	22	...	1.3	...	7.1	...	28.5	...
Prince Edward Island.....	27.0	...	9.3	...	28	...	18	...	0.7	...	6.3	...	17.7	...
Nova Scotia.....	27.5	...	8.5	...	27	...	16	...	0.7	...	7.4	...	19.0	...
New Brunswick.....	30.1	...	8.1	...	35	...	21	...	0.3	...	7.6	...	22.0	...
Quebec.....	29.8	...	7.6	...	38	...	25	...	0.8	...	7.8	...	22.2	...
Ontario.....	26.8	...	8.7	...	25	...	18	...	0.4	...	8.3	...	18.1	...
Manitoba.....	26.0	...	8.6	...	32	...	19	...	0.4	...	7.4	...	17.4	...
Saskatchewan.....	27.2	...	7.7	...	25	...	16	...	0.4	...	7.4	...	19.5	...
Alberta.....	30.8	...	7.1	...	27	...	18	...	0.3	...	8.7	...	23.7	...
British Columbia.....	26.1	...	9.2	...	28	...	18	...	0.4	...	8.5	...	16.9	...
Yukon.....	41.2	...	7.8	...	55	...	22	...	2.0	...	9.2	...	33.4	...
Northwest Territories.....	47.4	...	17.1	...	143	...	53	...	2.2	...	8.5	...	30.3	...
Ceylon.....	36.4 ⁴	4	9.84	11	674	18	414	17	3.84	14	6.34	20	26.64	4
Chile.....	35.4 ⁴	5	11.94	19	1134	24	394 ⁶	16	2.84	13	8.34	7	23.54	5
Denmark.....	16.7	26	9.3	8	23	4	186	5	0.56	2	7.3	14	7.4	24
England and Wales.....	16.1	27	11.5	23	23	4	17	4	0.5	2	7.7	11	4.6	29
Finland.....	19.8	17	9.4	9	28	6	164	3	1.14	7	7.2	15	10.4	18
France.....	18.4	19	12.0	20	36	10	20	7	0.66	3	7.0	16	6.4	26
Germany, Federal Republic of.....	17.0	23	11.3	16	34	12	24	10	1.66	10	9.0	1	5.7	27
India ⁷	24.2	10	11.8	18	100 ⁸	22	...	...	...	...	...	...	12.4	14
Ireland.....	21.2	16	11.9	19	33	9	22	8	0.84	5	5.0	22	9.3	20
Italy.....	18.2	20	10.0	13	50	16	266	11	1.36	8	7.5	13	8.2	22
Japan.....	17.2	22	8.3	3	39	13	234	9	1.86	11	8.5	5	8.9	21
Mexico.....	46.9	1	12.9	23	694	19	296	13	2.26	12	6.5	19	34.0	2
Netherlands.....	21.2	16	7.5	1	17	1	12	1	0.66	3	8.5	5	13.7	12
New Zealand.....	24.9	9	9.3	8	20	2	134	2	0.46	1	7.9	10	15.6	9
Northern Ireland.....	21.5	15	10.9	15	29	7	20	7	1.1	7	6.7	18	10.6	17
Norway.....	18.2	20	8.6	5	215	3	136	2	0.76	4	6.9	17	9.6	19
Peru.....	36.6	3	9.0	7	948	21	378	15	...	...	3.0	23	27.6	3
Portugal.....	23.3	12	11.3	16	89	20	304	14	1.44	9	8.0	9	12.0	15
Scotland.....	19.0	18	11.9	19	29	7	20	7	0.5	2	8.3	7	7.1	25
Spain.....	21.7	14	9.8	11	48	15	226 ⁹	8	1.09	6	8.4	6	11.9	16
Sweden.....	14.6	28	9.9	12	17	1	13	2	0.55	2	7.0	16	4.7	28
Switzerland.....	17.7	21	10.0	13	23	4	4	4	1.76	4	8.1	8	7.7	23
Union of South Africa (Whites).....	25.6	7	8.8	6	314	8	209	7	0.76	6	8.4	3	16.8	8
United States.....	25.6 ⁸	7	8.4 ⁵	4	489	15	...	...	...	...	...	...	17.28	7
United States, Socialist Republics.....	25.0	8	9.6	10	28	5	19	6	0.4	...	8.9	2	15.4	10
Venezuela.....	46.7 ¹	2	9.94	12	664	17	...	...	...	...	5.94	21	36.84	1
Yugoslavia.....	23.5	11	10.5	14	101	23	429	18	...	...	8.6	4	13.0	13

¹ Under four weeks unless otherwise stated.

² Per 1,000 population.

³ Per 1,000 live births.

⁴ 1956.

⁵ 1955.

⁶ Under one month.

⁷ Registration area only.

⁸ 1954.

⁹ 1953.

CHAPTER VI.—PUBLIC HEALTH, WELFARE AND SOCIAL SECURITY*

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NOTE.—The interpretation of the symbols used in the tables throughout the Year Book will be found facing p. 1 of this volume.

PART I.—PUBLIC HEALTH

Section 1.—Review of Health in Canada

During the past ten years there has been an unprecedented growth in Canada's population and in the health and welfare services and resources that protect it. The number of people in Canada has increased by 4,000,000 during this period, of whom less than 1,000,000 were immigrants. The expansion of both health and welfare services has been equally outstanding. Better medical and hospital care, expansion of environmental preventive services, better housing, more and better food, greater security for the older person, for the disabled and for vulnerable groups such as deserted mothers, have all contributed to better health.

The crude death rate and maternal, infant and neonatal rates have decreased more in this period than in any other in history. Death rates for some younger groups have dropped by more than two-thirds during the past quarter-century. While, in the older

* Except where otherwise indicated, this Chapter was prepared by the Research and Statistics Division of the Department of National Health and Welfare.

ages, the more significant reduction in mortality rates has been among women, there have been decreases in death rates for specific diseases among both sexes. A record of 469,093 births in 1957 maintained the postwar high fertility rates but the infant mortality rate of 31 still stands far above the lowest current records of countries like Sweden and the Netherlands (both 17). Nearly two-thirds of the deaths among children occur in the first month of life, a reflection of the high death rate from immaturity, birth injury and congenital malformations. Satisfactory trends in maternal death rates continued in 1957, the maternal mortality rate of 0.5 per 1,000 live births being at a level comparable with other leading countries.

Environmental health services have greatly reduced the incidence of such water- and food-borne infections as typhoid fever. Vaccination has eliminated smallpox of which there were over 3,000 cases as recently as 1928. The extensive development of antibiotics and other prophylactic agents such as poliomyelitis vaccine has reduced the severity of or the degree of disability caused by many primary infections and has provided protection against secondary infection. In 1956 only 1.8 p.c. of all deaths were due to infectious diseases, including tuberculosis; thirty years ago infectious diseases accounted for 12.6 p.c. of deaths. A similar decrease has occurred in other diseases such as rheumatic fever and pneumonia where infection plays a part in the disease processes. The introduction of ataractic drugs in treatment of mental illness has assisted in expediting the clinical control and rehabilitation of mental patients.

But, while many of man's oldest diseases are being controlled, the nature and cure of chronic and degenerative illness remain too largely unknown, and new sources of ill health are emerging from the complex development of industrial civilization. Occupational hazards from toxic substances and accidents have become a matter of increasing concern. The contamination of air and water from industrial wastes becomes a progressively more severe problem. Accidents are assuming an alarming position among the leading causes of death; vehicular and other traffic accidents result in a tragic mounting loss of life. The rapid development of urban living has also created many other problems related to health. Inadequate housing and recreation facilities, excessive use of alcohol and drug addiction are predominantly special urban problems. Increasing use of radioactive agents in many different fields of endeavour requires special health precautions and the general problem of the effects of radiation on life is one of the most important and pressing of today.

Health of Young People.—Following the first year of life, survival rates are high throughout childhood. Although more than one-third of the population are between one and 20 years of age, they account for only one of every 25 deaths. Accidents account for the largest number of deaths in childhood, principally traffic casualties and drownings. Respiratory and digestive disorders are also leading causes of death.

Despite the relatively low death rate, sickness rates in childhood remain high. The Canadian Sickness Survey of 1951 showed that 87 p.c. of the children under 15 years of age reported sickness and 57 p.c. reported some time spent sick in bed. Each child suffered an average of three sicknesses a year. Sicknesses lasted 12 days on the average. Colds and influenza, which are rife at all ages, were leading causes of sickness among children. The communicable diseases of childhood (measles, mumps, chickenpox, whooping cough and scarlet fever) also accounted for much sickness; well over 1,000,000 cases of these diseases were reported during the survey year. In March 1957 there were nearly 5,000 persons suffering from long-term conditions, generally congenital or arising in early childhood, such as epilepsy, cerebral spastic infantile paralysis or the late effects of infantile paralysis. Over 10,000 mentally defective persons received allowances for total and permanent disabilities, in addition to those being cared for in institutions.

Health of Adults.—The health of the adult population has also been affected by modern preventive and treatment services, and control of many infectious respiratory and digestive diseases has markedly reduced death rates from these causes. Degenerative diseases, however, continue to take an increasing toll of life and health through the working years.

Thirty years ago women experienced, through their reproductive years, a higher death rate than men. The situation is now reversed; women's death rates have been reduced by two-thirds as compared with one-half among men. Accidents, frequently occupational, are the leading cause of death for men; past the age of 30, cancer becomes the leading cause of death for women. From age 50 on there are marked trend differences in death rates between the sexes. While the rates for women in their 50's and 60's have dropped by about one-third, there has been, over the past quarter-century, no significant decrease in the male death rate; in 1955 there were seven deaths among men for every four among women in this age range. Half the deaths of both sexes are caused by heart disease. One-third of female deaths and one-fifth of male deaths result from cancer. Diabetes also ranks as a leading cause of death for both sexes.

The Permanent Physical Disability Study carried out as a supplement to the Canadian Sickness Survey in 1951 indicated that 317,000 persons aged 45 to 64 were permanently physically handicapped; of this number 136,000 were severely or totally disabled. Death from a degenerative disease in adult age is often preceded by a period of illness and disability.

Health of Older People.—The growing burden of chronic illness in old age is reflected in mortality and morbidity data. In 1955, 63 p.c. of deaths over age 65 were caused by heart and artery diseases and 15.6 p.c. were the result of cancer. Cardiovascular disease and cancer account for approximately one-third of all old age admissions to general hospitals and a large share of hospital care in old age is for respiratory and digestive ailments. The chronic nature of sickness in old age is emphasized by the findings of the Canadian Sickness Survey. Persons over age 65 accounted for only 7 p.c. of the survey population but for 15 p.c. of the total days of illness. That much disability was permanent was indicated by the fact that 162,000 persons over age 65 were estimated to be severely or totally disabled. Heart disease, arthritis, impairments from accidents, blindness, deafness and chronic diseases of the nervous system accounted for 60 p.c. of all persons reporting permanent disability. The Canadian Sickness Survey did not include residents of chronic care institutions. In 1955 there were about 140,000 persons under care in mental, tuberculosis and other chronic care hospitals. Persons over 65 years of age accounted for one-quarter of all separations from mental institutions. One-quarter of discharges and two-thirds of deaths in mental institutions in old age were diagnosed as senile or suffering from cerebral arteriosclerosis.

Section 2.—Federal, Provincial and Local Health Activities

Provincial governments have the major responsibility for the organization and administration of public health services in Canada, and municipalities have supervision over certain matters delegated to them by provincial legislation. Most provinces are now developing programs of hospital insurance and diagnostic services under a federal-provincial program, and preventive and other supporting services are well established in most areas. The Federal Government, in addition to certain constitutional obligations, has an important function in assisting the provinces through advisory, consulting and co-ordinating services and in the provision of health grants. Voluntary agencies also have an important part in health matters at the national, provincial and local levels.

Subsection 1.—Federal Health Activities

The Department of National Health and Welfare is the chief federal agency in health matters, but important treatment programs are also administered by the Department of Veterans Affairs and the Department of National Defence. The Dominion Bureau of Statistics is responsible for the compilation of health statistics, the National Research

Council and the Defence Research Board administer medical research programs, and the Department of Agriculture has certain health responsibilities connected with food production.

The Department of National Health and Welfare administers controls over food and drugs including narcotics, operates quarantine and immigration medical services, carries out international health obligations, and provides health services to Indians, Eskimos and other special groups. It serves in an advisory and co-ordinating capacity to the provinces and administers grants to provincial health and national voluntary agencies.

The Department advises on the visual eligibility of applicants for blindness allowances and co-operates with the provinces in the provision of surgical or remedial treatment for recipients of these allowances. Under the Public Works Health Act, supervision of health conditions is provided for persons employed on federal public works. Other programs of health or medical supervision and counselling are provided to the federal Civil Service and to the Department of Transport in all matters pertaining to the safety, health and comfort of air crew and passengers.

Co-ordination with the provinces on health matters is facilitated by the Dominion Council of Health. The membership of the Council includes the Deputy Minister of National Health who acts as chairman, the chief health officer of each province, and five appointees of the Governor in Council representing the universities, labour, agriculture and French- and English-speaking women's organizations. The Council meets semi-annually to review current problems. Its decisions or recommendations, though purely advisory, provide the federal and provincial governments with the opinions of a group of senior health administrators. Several federal-provincial technical advisory committees of the Council deal with specific aspects of public health.

National Health Grant Program.—The National Health Grant Program, inaugurated in 1948, initially made ten federal grants available to the provinces for the development and strengthening of public health and hospital services. Nine are continuing grants: the Hospital Construction, Professional Training, General Public Health, Public Health Research, Mental Health, Tuberculosis Control, Cancer Control, Venereal Disease Control, and Crippled Children Grants. The Health Survey Grant lapsed in 1953 following completion of provincial health surveys. In 1953, after a review of the first five years of the Program, three new grants were established: Child and Maternal Health, Medical Rehabilitation, and Laboratory and Radiological Services.

In 1958, federal assistance under the Hospital Construction Grant was increased to \$2,000 per hospital bed, regardless of type—double the previous grant for active treatment beds. In addition, funds were made available to meet one-third of the cost of approved alterations and renovations to existing facilities. The provinces must at least match federal contributions under the Grant. There is also matching requirement in the Cancer and Venereal Disease Grants and in the case of services (as distinct from equipment and training of personnel) in those for Medical Rehabilitation, and Laboratory and Radiological Services.

Up to Mar. 31, 1958, aid for construction was approved for 68,743 beds, 9,112 bassinets, 12,730 nurses' beds, and space in community health centres and combined laboratories exceeding 7,800 bed equivalents. Approximately 20,000 health workers had been trained or were undergoing special training, and 6,200 additional health workers had been employed with federal grant assistance.

Since the inception of the program, the provinces have steadily increased utilization of the grants. Payments to the provinces in 1957-58 totalled \$34,606,064 or 78 p.c. of the amount available; the average utilization during ten years of the program was 70 p.c.

1.—Amounts Available and Amounts and Percentages Expended under the National Health Program, by Grant, for the Ten-Year Period Ended Mar. 31, 1958, and for the Year Ended Mar. 31, 1958.

Grant	1948-58 Period			Year Ended Mar. 31, 1958		
	Amount Available	Amount Expended ¹	Percentage Expended	Amount Available	Amount Expended ¹	Percentage Expended ²
	\$	\$		\$	\$	
Cancer Control.....	35,868,063	22,363,342	62	3,598,795	3,433,466	95
Crippled Children.....	5,167,932	3,514,881	68	519,898	473,291	91
General Public Health.....	67,742,101	41,605,845	61	7,985,000	6,316,539	79
Health Survey.....	645,180	540,960	84	—	—	—
Hospital Construction.....	101,480,572	84,447,957	83	8,183,660	8,048,518	98
Mental Health.....	59,781,147	42,807,170	72	7,234,868	6,526,064	90
Professional Training.....	5,146,344	5,165,270	100	516,300	565,708	110
Public Health Research.....	4,101,248	3,894,885	93	512,900	465,393	91
Tuberculosis Control.....	40,065,800	37,451,356	93	4,239,531	3,839,907	91
Venereal Disease Control.....	4,932,138	4,261,733	86	518,099	456,241	88
Child and Maternal Health.....	7,500,000	3,842,961	51	2,000,000	1,165,550	58
Laboratory and Radiological Services.....	30,585,800	7,923,576	26	7,985,000	2,681,992	34
Medical Rehabilitation.....	4,500,000	1,651,738	37	1,000,000	633,395	63
Totals.....	367,516,325	258,971,674	70	44,294,051	34,606,064	78

¹ Gross amounts that do not show reductions through refunds are estimated at about \$3,000,000. ² Expenditures may exceed 100 p.c. of amounts available, through transfer of unexpended funds from one grant to another.

Hospital Insurance and Diagnostic Services Act.—After several years of preparatory work, Parliament enacted the Hospital Insurance and Diagnostic Services Act in April 1957. This is enabling legislation under which federal grants-in-aid are made available to the provinces to assist in operating publicly administered insurance plans for general hospital care. The Act sets out the principles under which the Federal Government will bear a substantial part of the costs of hospital services provided by approved provincial plans. The method of financing and administering individual plans, as well as the type of services offered over and above the minimum stipulated in the Act, is entirely a provincial matter.

Under the financial formula, the Federal Government contributes one-half of the aggregate shareable costs of the hospital insurance plans. In the individual provinces, however, the federal share varies as a consequence of a formula designed to give a somewhat higher percentage of federal assistance to provinces with less financial strength; each participating province receives 25 p.c. of the national average per capita cost of hospital services plus 25 p.c. of its own provincial per capita cost multiplied by the population covered.

The Act also enumerates the basic range of services mandatory for any provincial scheme that is to receive federal support. Under its terms, each participating province is required to make specified benefits universally available to its population. These benefits must be available without any limit on the total days of care provided and include basic public ward care and other in-patient service normally associated with the operation of a hospital, together with certain diagnostic aids for in-patients and, on a permissive basis, for out-patients. Services may be provided in chronic as well as active treatment hospitals, but the legislation specifically excludes care in tuberculosis sanatoria, mental hospitals and institutions for custodial care. All capital costs and all debts (or interest on debts) incurred prior to the effective date of each federal-provincial agreement are also specifically excluded from shareable costs. Thus, the federal Act is not set up to restrict a province in its hospital insurance program, but to assist in the provision of an insurance system for basic general hospital services available under uniform terms and conditions to the entire provincial population. (Descriptions of provincial plans are given in Subsection 2 dealing with provincial services, p. 242.)

Food and Drug Control.—The Food and Drugs and Proprietary or Patent Medicine Acts govern the safety, purity and quality as well as the labelling and advertising of all foods, drugs (except narcotic drugs), therapeutic devices and cosmetics. Standards of safety and purity are maintained through constant and widespread inspection and laboratory research. In the central Food and Drugs laboratory, standards governing ingredients are formulated and methods of analysis developed. Special research is carried on to establish the safety of new products. Recently this has involved intensive study in the field of pesticides and in chemical additives used in foods. Several panels of experts advise on technical and medical problems.

Control of the import, export and distribution of narcotic drugs is administered under the Opium and Narcotic Drug Act, and includes regulation of domestic supply and suppression of illicit traffic. Enforcement of the law is carried out in collaboration with the Royal Canadian Mounted Police and other agencies.

Indian and Northern Health Services.—The Department of National Health and Welfare makes available public health, medical and hospital services to about 152,000 Indians and 11,000 Eskimos. The program relative to Indians is administered by the Directorate of Indian and Northern Health Services in conjunction with the Department of Citizenship and Immigration, and for Eskimos in collaboration with the Department of Northern Affairs and National Resources.

Services are provided directly to about 2,000 small scattered groups through a network of 18 hospitals, 41 nursing stations and about 66 other health centres staffed by full-time medical officers, dental surgeons and graduate nurses. In areas where departmental staff or facilities are not located, private practitioners and provincial or community health agencies care for these groups in return for fees for service, payment of per diem rates or other arrangements. Special emphasis is placed on tuberculosis control through health education, field X-ray surveys, BCG vaccination and early treatment in sanatoria.

Immigrants.—The Department of National Health and Welfare advises on the administration of sections of the Immigration Act dealing with health, and conducts in Canada and overseas the medical examination of applicants for immigration. It also provides necessary health care for immigrants who become ill en route to their destination or while awaiting employment. Further assistance in the provision of hospital and medical services is available to indigent immigrants during their first year in Canada either by the Federal Government or by the province with federal sharing of costs.

Sick Mariners and Lepers.—Under the authority of Part V of the Canada Shipping Act, the Department of National Health and Welfare provides medical and hospital care on a compulsory prepaid basis for crew members of all foreign-going ships arriving in Canada and for crews of coastal vessels in interprovincial trade. Crew members of Canadian fishing and government vessels may participate on an elective basis. In any one year, approximately 100,000 non-Canadian members of foreign-going ships are insured, together with about 20,000 Canadians, 16,000 of whom are employed on fishing vessels, 2,500 on government vessels and 1,500 in coastal shipping. Treatment is available for a period of up to one year for all conditions except prolonged mental illness. Under the Leprosy Act the Department maintains one unit for the treatment of leprosy at Tracadie, N.B.

Health Research.—The National Research Council, the Department of National Health and Welfare, the Defence Research Board and the Department of Veterans Affairs all administer grants-in-aid of medical, public health or socio-economic health research. The latter three also conduct intramural research. Federal funds amount to about 50 p.c. of over-all expenditure on medical research in Canada.

The Division of Medical Research of the National Research Council, set up in 1946, offers grants chiefly for fundamental studies in basic medical science; these total about \$750,000 annually.

The Department of National Health and Welfare supports both intramural and extramural research, chiefly of an applied nature, to an amount of about \$2,500,000 annually. Grant assistance comes mainly from the Public Health Research Grant, with additional amounts provided from the grants for mental health, cancer control, tuberculosis, general public health, crippled children, and child and maternal health. Departmental public health research is conducted in the laboratories of the Food and Drug Directorate, the Laboratory of Hygiene, the Occupational Health Division and the Nutrition Division, as well as by the Epidemiology and Dental Health Divisions. Socio-economic research in both the health and welfare fields is carried on by the Research and Statistics Division, which collects, analyses and evaluates data on health and welfare matters, develops methods to assist in solving technical and administrative problems, and provides research and consultant services to other Divisions of the Department and other agencies in Canada and abroad.

The Defence Research Board sponsors intramural research in its Defence Research Medical Laboratories together with grants-in-aid for investigations related to medical problems of national defence.

The Department of Veterans Affairs is committed mainly to clinical research in its own hospitals, with emphasis at the present time on the problems of the aging process. (See p. 291.)

The Health and Welfare Division of the Dominion Bureau of Statistics collects vital statistics, morbidity information and hospital data, and carries out surveys on health matters.

International Health.—Canada has been a signatory to certain international agreements and conventions and is a member of a number of international organizations concerned with health, including the World Health Organization.

To carry out this country's obligations under the International Sanitary Conventions, the Department of National Health and Welfare maintains quarantine measures for ships and aircraft entering Canadian ports and provides accommodation and necessary medical care for persons arriving in Canada who require quarantine. It also carries out Canada's obligations, under the Brussels Agreement of 1924, for the treatment of venereal disease in seafarers arriving in this country.

The Department is responsible for the enforcement of requirements governing the handling and shipping of shellfish under the International Shellfish Agreement between Canada and the United States and, at the request of the International Joint Commission, participates in studies connected with control of pollution of boundary waters between Canada and the United States and with problems caused by atmospheric pollution. Other international health responsibilities include the custody and distribution of biological, vitamin and hormone standards for the World Health Organization, certain duties in connection with the Commission on Narcotic Drugs of the United Nations and the provision of technical assistance to other specialized agencies of the United Nations carrying out programs related to health.

Subsection 2.—Provincial and Local Health Services

As already stated, the provincial governments carry the major responsibility for health planning and policy and most health programs are administered by provincial government agencies, though responsibility is often placed with local health authorities and other agencies that operate under provincial legislation and supervision.

Provincial and local health services may be grouped in several broad categories: general public health services, primarily of a preventive nature; services for specific diseases or disabilities combining prevention and treatment; services related to general medical and hospital care; and rehabilitation services for disabled persons.

General Public Health Services.—Provincial and local governments co-operate closely in providing community public health services. The autonomy of the provinces and their social, economic and geographic diversity make for some variety in legislative provisions, in financial arrangements, and in the detailed division of functions between provincial health departments and local and voluntary agencies. Each province, however, now offers all or nearly all of a basic range of public health services which include environmental sanitation, communicable disease control, child and maternal hygiene, health education, vital statistics, public health laboratories, occupational health, dental public health and nutrition services.

Environmental Sanitation.—The control of environmental hazards to health, one of the oldest forms of public health activity, is a function of specialized environmental sanitation or public health engineering divisions in each provincial health department. Programs are concerned primarily with the maintenance of safe water supplies, supervision of sewage disposal systems, milk sanitation and control of general sanitary conditions in public areas, the most extensive sanitary facilities being located, of course, in industrial and urban centres. Provincial and municipal sanitary engineers set standards, formulate policies and regulations, and provide technical assistance to local authorities. The intensity of this type of preventive supervision and control varies from province to province and within the province, but basic programs are similar.

Occupational Health.—Services designed to prevent accidents and occupational diseases and to maintain the health of employees are the common concern of provincial health departments, labour departments, workmen's compensation boards, and industry management. Provincial agencies regulate working conditions and offer consultation and educational services to industry. All provinces have on their statute books legislation (Factory Acts, Shop Acts, Mines Acts, Workmen's Compensation Acts) setting health safety standards for employers.

Communicable Disease Control.—The control of communicable disease has been intimately connected with the beginnings and development of public health measures and concepts. Separate divisions of epidemiology or communicable disease control exist in the six larger provinces; in the Atlantic Provinces these functions are handled by a provincial medical health officer. Local health authorities undertake case-finding and diagnostic services in co-operation with public health laboratories, carry out epidemiological investigations and often participate in tuberculosis and venereal disease control measures.

Maternal and Child Health.—Services for mothers and children are largely decentralized through local units and departments, but most provinces maintain separate divisions or employ consultants to promote better standards and to give technical assistance. Public health nurses have a prominent place in this work which may include prenatal education, provisions for delivery and care of the newborn in remote areas, home visits, child health clinics and school health services.

Nutrition.—Services include technical guidance, education, consultation and research. In some provinces school lunch programs are also sponsored and dietary supplements distributed. Five provinces have special nutrition divisions; elsewhere nutritionists serve in other divisions of the health department.

Health Education.—In most provinces experience has demonstrated the need for a professional full-time "health educator" as a member of the public health team. Nine provinces have separate divisions or units to co-ordinate the dissemination of health information through all available media.

Vital and Health Statistics.—All provinces have vital statistics legislation providing for the compulsory registration of births, marriages, deaths and stillbirths. Divisions of vital statistics are located in the health department in nine provinces; Ontario has its vital statistics office in the Department of Municipal Affairs.

Statistics pertaining to special health programs are maintained usually by the various operating divisions of the provincial health departments. Ontario and Saskatchewan, however, have separate research and statistics divisions which conduct special investigations.

Public Health Laboratories.—The public health laboratory, an essential facility in the protection of community health and the control of infectious diseases, was one of the earliest provincial services developed to assist local public health departments. Work performed includes bacteriological examination of water, milk and food samples, the examination of specimens for diagnosis of communicable diseases and pathological special services. Each province maintains a central public health laboratory and most provinces have established additional branch laboratories. Recent trends in some provinces include efforts to co-ordinate public health and hospital laboratory services, special measures to bring laboratory facilities to rural areas, and devices to reduce the direct cost of clinical laboratory procedures to the individual.

Special Health Programs.—Special programs have been developed to deal with health problems of particular severity, many of which are chronic or long-term in nature.

Mental Health.—Major developments in provincial mental health programs concern the expanding and modernizing of mental hospitals, the training of various kinds of psychiatric personnel and the extension of community mental health services outside mental hospitals. Assistance to patients in securing employment and in social adjustment following discharge from mental hospitals—a relatively new field of rehabilitation—is being promoted by voluntary groups and government agencies in several provinces.

At the end of 1957, Canada's mental hospitals, exclusive of psychiatric units, were treating more than 72,000 patients. Despite a growing rate of discharges, the daily average number of patients has continued to rise each year. Construction of new hospital accommodation continues and approximately 14,000 mental beds have been added since 1948. While there is still an acute shortage of mental hospital accommodation, there has been some reduction in overcrowding. The occupancy rate has declined from 128 patients for each 100 rated beds in 1948, to 117 patients in 1957, despite a 22-p.c. increase in the average daily population.

With the exception of the municipally owned local asylums in Nova Scotia and hospitals in Quebec that operate under religious or lay auspices, most mental hospitals are administered by provincial authorities. A great part of the cost is borne by the provincial governments, although patients whose relatives can afford to contribute may be charged for care in seven provinces. Newfoundland and Saskatchewan provide complete free care. In Ontario, mental hospital treatment is included in the plan of hospital care insurance which started operating on Jan. 1, 1959.

Most of the public mental hospitals provide care and treatment for all types of mental illness but, as facilities expand, it is becoming possible for hospitals to segregate patients under intensive treatment from those receiving long-term care. Some provinces maintain separate accommodation for certain categories of the mentally ill. For example, in British Columbia and Alberta, homes for the senile aged are an integral part of the mental hospital system. Ontario and Quebec have separate hospitals for epileptics. Eight provinces operate schools for residential treatment and education of mentally defective persons and one of the two remaining provinces, New Brunswick, enacted legislation in 1958 authorizing the government to support the maintenance of mentally retarded children in approved homes.

As the needs of patients are more fully understood and better methods of treatment develop, the daily routine of the mental patient is becoming less restrictive, as is shown in the increasing number of persons coming voluntarily for treatment. In 1956 these comprised 28 p.c. of first admissions to mental hospitals and 72 p.c. of admissions to the psychiatric hospitals or short-stay centres. A significant departure from the old system

of custodial care and locked doors has been the introduction of open wards where patients may have unrestricted access to grounds, occupational and recreational areas.

Persons engaged in the treatment of the mentally ill are the largest single group employed by provincial governments. Although an acute shortage of professional personnel still exists, an expanded program of training is now in operation with federal health grant assistance.

One of the greatest changes in the past decade has been in the extension of community mental health services outside mental hospitals. General hospitals have expanded their psychiatric services in both in-patient and out-patient departments. About 30 general hospitals have organized units where psychiatric treatment is provided by professional trained staffs. First admissions to these units in 1956 totalled about 8,500. Out-patient clinics where mental illness may be treated at an early stage and guidance services given to children and parents, and various community agencies also play an important part in the treatment of mental illness outside mental hospitals. Less than 20 mental health clinics existed in 1944, but there are now 145 community out-patient mental health services, consisting of 85 out-patient services in hospitals and 35 full-time and 25 part-time clinics. Operating agencies include provincial health departments, municipalities or health units, mental or psychiatric hospitals, general and allied special hospitals, school boards and voluntary organizations.

Day and night care centres, another departure from the traditional form of custodial care, developed first in Montreal a decade ago as part of the psychiatric service of two large general hospitals. Similar centres, admitting patients on a nine-to-five basis or in the evening after work have now been opened at St. John's in Newfoundland, at Toronto in Ontario and at Burnaby in British Columbia.

Tuberculosis.—Despite greatly reduced mortality from tuberculosis and evidence of some lowering in incidence, the number of cases discovered through provincial detection programs indicates that tuberculosis is still a major public health problem. Case-finding techniques include mass X-ray surveys, tuberculin tests, special surveys of groups vulnerable to tuberculosis, and routine X-ray examinations of all general hospital and out-patient admissions. The work of case-finding is supported substantially by voluntary campaigns conducted by the Canadian Tuberculosis Association.

Sanatoria treatment is free in Newfoundland, Nova Scotia, New Brunswick, Manitoba, Saskatchewan and Alberta, and is included in the hospital insurance benefits which came into effect in Ontario on Jan. 1, 1959. Even in those provinces where a charge for sanatoria care may be made, the amount collected from paying patients is a very small percentage of total costs.

The number of beds set up in sanatoria and in tuberculosis units of general hospitals declined from a peak of 18,977 reached in 1953 to 15,958 in 1957. This decline in occupancy has resulted from such factors as a decrease in the number of admissions, detection of cases in earlier stages of the disease, and improved treatment methods by drugs and surgery. Provision has been made in several provinces to furnish drugs to patients for home treatment.

Cancer.—Health departments and lay and professional groups working for the control of cancer have been concerned mainly with four aspects of the problem—diagnosis, treatment, research and public education.

In the detection and treatment of cancer, specialized medicine, hospital services and an expanding public health program are closely related. Programs operating under health departments exist in four provinces and there are an equal number with provincially supported cancer agencies or commissions. These sponsor the work of diagnosis and treatment in special clinics located usually within the larger general hospitals. The scope of services available without charge varies. Those of the Saskatchewan Cancer Commission and the Alberta Department of Health include all clinical and laboratory examinations

and testing, radiotherapy and surgery. Health departments in New Brunswick offer free diagnosis and radiotherapy and in Prince Edward Island, diagnostic services. Treatment programs of the Ontario Cancer Treatment and Research Foundation the British Columbia Cancer Foundation and the Nova Scotia Department of Health supply radiotherapy free or at nominal cost to medical indigents. The Manitoba Treatment and Research Foundation recently added free radiotherapy to a program previously organized on a means-test basis.

Laboratory research in many aspects of medical and biological sciences related to cancer is carried on by a grant-in-aid program administered by the National Cancer Institute but financed by the Canadian Cancer Society and federal-provincial grants. Clinical research projects are supported directly by the Canadian Cancer Society and provincial cancer agencies, particularly the Ontario Cancer Treatment and Research Foundation.

Until very recently there have been few research units operating primarily for cancer research. The year 1958 marked the completion of the Ontario Institute of Radiotherapy at Toronto, the first hospital and research centre designed exclusively for cancer patients. Another development was the establishment of a large cancer research unit within the new Medical Research Centre of the University of Saskatchewan, directed by a full-time professor of cancer research.

Poliomyelitis.—Through agreements with the Federal Government all provincial health departments have made Salk vaccine available for free inoculation of children; and are encouraging older age groups to avail themselves of the protection of this vaccine. The incidence of poliomyelitis in the four years since the introduction of Salk vaccine* has been at as low a level or lower than that between epidemics in previous years. Few persons who have received the prescribed number of shots have contracted the disease.

Most of the special programs offering free hospital care to poliomyelitis patients have become integrated in provincial hospital insurance schemes. Rehabilitation programs for ex-patients are a combined responsibility of provincial rehabilitation agencies and national voluntary agencies.

Dental Health.—Nine provincial health departments have dental health divisions, and a tenth is under organization. These divisions administer dental programs which vary under local conditions but are directed almost entirely to the care of children. Public education, training of dentists in dental public health, the operation of children's preventive treatment clinics and water fluoridation are all being undertaken, although not on the same pattern, in all provinces. Provincial legislation authorizing municipalities to pass by-laws and carry out approved programs pertaining to water fluoridation has been passed in British Columbia, Alberta, Saskatchewan and Manitoba.

In four provinces free clinical care is provided for children in remote or rural areas by the use of mobile units. In other provinces, community programs are in the course of development. A successful locally sponsored plan in which the cost of clinics is shared with the health authorities has been adopted in some 60 communities in British Columbia; the sponsoring group determines whether registration for treatment may be free or on payment of a nominal sum.

Venereal Disease.—Free diagnostic and treatment services are available in all provinces but government clinics are being increasingly superseded by private physicians who are supplied with free drugs and reimbursed for treatment of indigents on a fee-for-services basis.

Alcoholism.—Ontario, Manitoba, Alberta and British Columbia have recently set up alcoholism agencies supported largely by public funds. These agencies carry out research and education programs and operate centres for treatment. Saskatchewan and Newfoundland conduct an educational program. Ontario, Saskatchewan and Alberta also have rehabilitation programs for alcoholic inmates of reform institutions.

* A description of the research, discovery and Canada's part in the preparation of the vaccine is given in the 1956 Year Book, pp. 258-260.

Other Diseases or Disabilities.—Services for a number of chronic disabilities, such as heart disease, arthritis, diabetes, visual and auditory impairments, paraplegia and cerebral palsy, are being developed largely by voluntary agencies, assisted by federal and provincial funds.

Rehabilitation Services.—There has been a steady expansion in all provinces of specialized medical, vocational, employment and educational services to aid in the rehabilitation of the disabled to their maximum physical, social and economic independence. To bring together the activities of the various organizations providing a rehabilitation service, co-ordinating bodies have been formed at community, provincial and federal levels.

To support provincial rehabilitation programs the federal Department of Labour provides two matching grants—one to assist in the co-ordination and development of vocational rehabilitation, authorized under the federal-provincial co-ordination agreements, and a second specifically for vocational training under Schedule R of the Vocational Training Agreement. The Department of National Health and Welfare under the National Health Program provides grants to the provinces for medical rehabilitation of disabled persons, including the tuberculous, the mentally ill, and crippled children and adults. In 1957-58, the provinces utilized \$633,000 from the Medical Rehabilitation Grant to provide special equipment and expand services in hospitals and rehabilitation centres, and to train needed personnel such as doctors and physiotherapists. The Department of Veterans Affairs operates special centres for the treatment of various chronic conditions and assessment and rehabilitation units for geriatric patients. New rehabilitation programs have been established by the Indian Affairs Branch of the Department of Citizenship and Immigration for socially and physically handicapped Indians, and by the Department of Northern Affairs and National Resources for Eskimos who require re-establishment. The Special Placements Division of the National Employment Services also provides a job placement service for the handicapped.

Provincial vocational rehabilitation programs have been organized to make available medical, social and vocational services to persons handicapped by mental or physical disability. In each province specialized medical rehabilitation facilities have been set up in general hospitals and, in most of the provinces, rehabilitation centres offer integrated services. Four of these centres are operated by provincial Workmen's Compensation Boards which have experimented in methods of physical and vocational rehabilitation. All provinces make some provision for the education of handicapped children such as the blind, deaf, the mentally retarded, and frequently the physically handicapped in general, either through the operation of special schools or by financial grants.

Provincial and local branches of voluntary agencies, supported by service clubs and in some instances, community funds, provide important treatment and rehabilitation as well as preventive services. Such organizations include the Canadian National Institute for the Blind, the Canadian Arthritis and Rheumatism Society, the Canadian Foundation for Poliomyelitis and the crippled children's societies. Although the last-named still provide most of the services for orthopaedically handicapped children, together with children's hospitals and clinics, four provinces are developing their own programs. In most provinces voluntary agencies also operate sheltered or industrial-type workshops for the handicapped, some of which offer facilities for vocational testing and training.

Hospital and Medical Care.—*Hospital Care.*—The four provinces with hospital insurance plans in operation prior to the passing of the federal Hospital Insurance and Diagnostic Services Act of 1957—Newfoundland, Saskatchewan, Alberta and British Columbia—amended their programs to bring them into conformity with the federal Act from July 1, 1958. A fifth province, Manitoba, commenced its plan on the same date and Nova Scotia and Ontario on Jan. 1, 1959.

All seven plans, in conformity with the federal Act, provide in-patient services in active treatment and chronic and convalescent hospitals to all residents of the province under uniform conditions. Services include standard ward accommodation and nursing, necessary laboratory, diagnostic and radiological procedures, use of operating room and anaesthetics,

specified drugs while in hospital and other specified ancillary services. The federal Act provides for out-patient services but not on a mandatory basis. Newfoundland includes all services detailed in the Act. Alberta does not provide out-patient services. The remaining provinces provide them in case of emergency only, with some addition planned for Nova Scotia. Ontario, alone among the provinces, provides tuberculosis and mental health care, not provided for in the federal Act.

Reciprocal agreements between provinces for periods up to three months provide for continuous coverage for persons moving between provinces where plans are in force. Insured persons temporarily absent from a province are covered for care in the case of emergency illness or accident.

Different methods of financing the provincial share of costs have been employed. British Columbia has retained the previously existing system of financing from consolidated revenue, with appropriation from a sales tax, plus \$1 a day co-insurance. Alberta supplements appropriations from revenue with a three-mill assessment of municipalities and co-insurance graded from \$1 to \$2 (according to size of hospital) a patient-day. Saskatchewan, Manitoba and Ontario employ a premium system and Nova Scotia a sales tax. Newfoundland provides free care to all who cannot pay. Alberta, Saskatchewan, Manitoba and Ontario give free care to recipients of social assistance, but local relief cases remain the responsibility of the municipality in Saskatchewan, Manitoba and Ontario. In British Columbia, the province assumes the \$1 co-insurance charge for public assistance recipients.

Of the provinces without hospital insurance plans, Quebec provides hospital care for indigent cases under the Public Charity Act, per diem rates being shared by the province and the institution providing care; Prince Edward Island provides care to indigents at local discretion; New Brunswick, which is actively planning for the introduction of hospital insurance, provides grants to aid municipalities meet costs of hospital care for indigents.

Public Medical Care.—Public medical care programs exist in three provinces, but are limited to residents of particular sections. Nearly one-half of Newfoundland's population receives medical care on a premium basis at home or in hospital under the provincially administered Cottage Hospital Plan. In addition, all Newfoundland children up to the age of 16 are entitled to free surgical and medical care in hospital at provincial expense. All medical indigents also receive care at provincial expense in Newfoundland. In Manitoba and Saskatchewan locally operated municipal doctor programs cover about 30,000 and 167,000 persons respectively. The Swift Current Health Region in Saskatchewan operates a comprehensive prepaid medical-dental care scheme. All these services are subsidized to some extent by the provincial health departments.

Nova Scotia, Ontario, Saskatchewan, Alberta and British Columbia all operate special health service plans for certain of their public assistance groups. Indigent persons not covered by the plans in these provinces as well as indigents in other provinces may receive necessary care from their municipality of residence. In general, where costs are assumed by the municipality, a cost-sharing arrangement is undertaken with the provincial government.

In Nova Scotia and Ontario, physician's care in the home and office is the major benefit offered, while in Saskatchewan, Alberta and British Columbia physician's care in home, office and hospital, specified drugs, dental and optical care are supplied. All these plans are completely provincially financed except in British Columbia where services other than medical are shared on a 90/10 basis with the municipality on a proportionate population basis, and in Ontario where premiums for the Unemployment Relief Group are shared on a 60/40 basis with the municipality of residence.

Subsection 3.—Health Services in the Yukon and Northwest Territories

Health services in the two Territories are operated under conditions considerably different from those in the provinces. Vast, sparsely settled areas, climatic conditions, lack of municipal government and direct federal administration constitute a basic set of

conditions under which both the aboriginal and the white population of the two Territories receive their health services from government agencies or religious organizations and only in some settled areas from private medical practitioners.

Comprehensive health services for the Indian and Eskimo population are provided by the Directorate of Indian Health Services of the Department of National Health and Welfare, for the white population by the Yukon and the Northwest Territories governments and by the federal Department of Northern Affairs and National Resources. Health care for the Armed Forces is the responsibility of the Department of National Defence.

In Yukon Territory, services for the white population are administered through the Commissioner for the Yukon and include complete treatment for tuberculosis and poliomyelitis patients and hospital care for indigent residents. Grants are made to cover the operating deficits of the two general hospitals operated by the Territory. Public health services include communicable disease control, public health nursing, sanitary inspection and tuberculosis case-finding.

In the Northwest Territories, health programs for the white population include free treatment for tuberculosis patients, free hospital care for the mentally ill, free treatment for venereal disease cases, and free cancer diagnosis at the Edmonton Clinic, Alta. Indigent residents are eligible for complete medical, dental and optical services as well as for general hospital care. Free dental services are available to children under 17 years of age. To support the mission hospitals, the Territorial government pays per diem grants on behalf of all paying patients. Public health services are generally provided by Indian Health Service personnel.

Section 3.—Health Statistics

Statistical information on the health of Canadians is at present limited to the well established and highly standardized mortality, communicable disease and institutional statistics series, all of which have been available for a long period. As compared with these records, other national health statistics are still in an early development stage. So far the only source of information on general illness, health services and personal expenditure for health care is the Canadian Sickness Survey of 1950-51. Other projects deal with specific health problems or selected groups of the population and much of the statistical information is available from provincial and other health sources.

Statistics on causes of death are given in the Chapter on Vital Statistics, pp. 197-229; those on hospital statistics in Subsection 1 following; and those on notifiable diseases in Subsection 3. Analyses available from the Canadian Sickness Survey appear in the 1955, 1956 and 1957-58 Year Books.

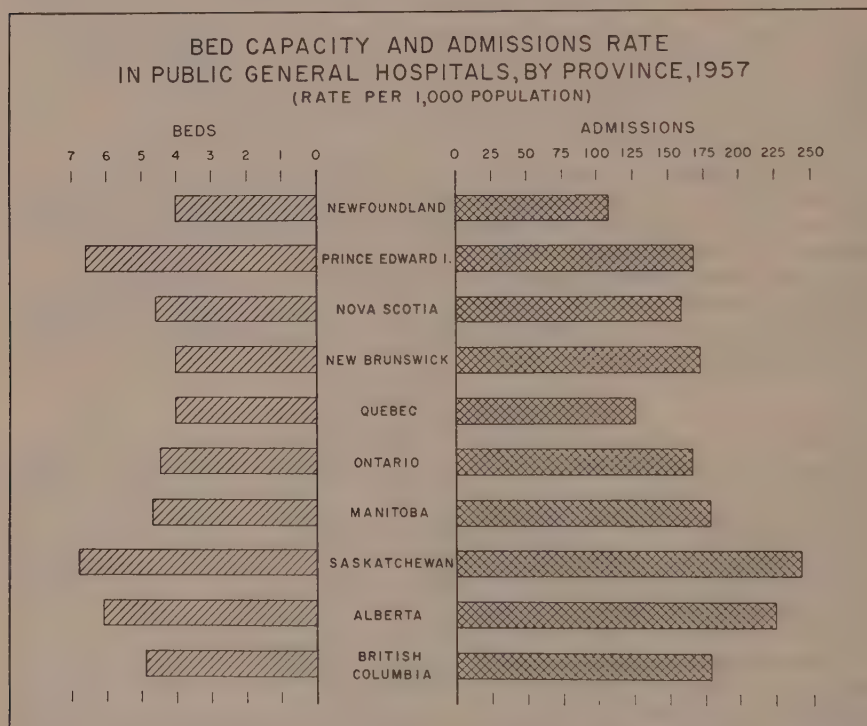
Subsection 1.—Health Institutions*

On July 1, 1958, the Hospital Insurance and Diagnostic Services Act came into effect, making federal funds available to provinces wishing to participate in a federal-provincial hospital insurance scheme. Seven provinces have signed agreements of participation, and in 1959 eight are expected to have their insurance programs in operation. Among other anticipated benefits, the network of hospital care plans should enable hospitals to place their finances on a more stable basis and should increase their effectiveness in providing basic health services. The insurance scheme may, in fact, stimulate the demand for hospital care by the public, and this in turn could lead to the over-utilization of available resources. No hospital can operate at maximum efficiency with 100 p.c. of its standard

* Prepared in the Institutions Section of the Health and Welfare Division, Dominion Bureau of Statistics. Detailed information will be found in the following DBS publications: *Hospital Statistics 1956 and 1957*, Vols. I and II; *Mental Health Statistics 1957* and *Financial Supplement*; *Tuberculosis Statistics 1957* and *Financial Supplement*.

capacity fully occupied. The optimum occupancy rate is generally considered to be 80-90 p.c. of capacity. The addition of, say, 100 beds to a hospital's complement would not provide an additional 36,500 days of care per annum, but rather about 29,200.

In 1957 there were 1,402 hospitals known to be in operation in Canada, and they had 176,347 beds (not including bassinets for the newborn). Of this total, 97 did not submit statistical reports. The remainder, 1,305 hospitals with 173,644 beds, provided at least partial returns and are included wherever possible in the tables of this Subsection. The bed capacity of non-reporting hospitals is estimated to be 1.5 p.c. of the total.



Two methods of hospital classification have been used in the tables. The first is based on admission policy—that is, public, private or federal; the second, on type of service provided—that is, general, special, mental or tuberculosis. Both bases of classification are combined in Table 2, and the figures distributed provincially. Public general hospitals, the most numerous single group, accounted in 1957 for over half the total number of hospitals reporting in each province except Quebec and British Columbia. The number of beds in such hospitals constituted a majority of the over-all capacity in Newfoundland, Prince Edward Island, Saskatchewan, Alberta and the Yukon and Northwest Territories, and were the largest single group in every province. As might be expected, the rank of the provinces in terms of population is the same as their rank in numbers of hospital beds, although not as their rank in numbers of hospitals. Saskatchewan, with its many small hospitals, though fifth in terms of population, is second to Ontario in the number of public general hospitals.

2.—Hospitals Reporting and Bed Capacity (excluding Bassinets) classified by Type of Hospital and Type of Service, by Province, 1956 and 1957

Year, Province and Type	General		Special		Mental		Tuberculosis		All Hospitals	
	No.	Beds	No.	Beds	No.	Beds	No.	Beds	No.	Beds
1956										
Newfoundland	28	1,664	2	128	1	650	2	610	33	3,052
Public.....	28	1,664	2	128	1	650	2	610	33	3,052
Private.....	—	—	—	—	—	—	—	—	—	—
Federal.....	—	—	—	—	—	—	—	—	—	—
Prince Edward Island ...	7	670	—	—	2	486	1	120	10	1,276
Public.....	7	670	—	—	2	486	1	120	10	1,276
Private.....	—	—	—	—	—	—	—	—	—	—
Federal.....	—	—	—	—	—	—	—	—	—	—
Nova Scotia	49	4,141	3	115	17	2,967	5	879	74	8,102
Public.....	43	3,266	2	108	17	2,967	4	864	66	7,205
Private.....	—	—	—	—	—	—	1	15	1	15
Federal.....	6	875	1	7	—	—	—	—	7	882
New Brunswick	33	2,788	5	203	2	1,135	5	906	45	5,032
Public.....	31	2,263	3	184	2	1,135	5	906	41	4,488
Private.....	—	—	—	—	—	—	—	—	—	—
Federal.....	2	525	2	19	—	—	—	—	4	544
Quebec	126	20,821	76	5,068	13	17,046	16	4,178	231	47,113
Public.....	97	17,743	23	4,399	12	16,965	16	4,178	148	43,285
Private.....	25	496	52	662	1	81	—	—	78	1,239
Federal.....	4	2,582	1	7	—	—	—	—	5	2,589
Ontario	205	23,298	54	4,581	19	17,189	15	4,238	293	55,306
Public.....	177	25,082	26	3,873	17	16,912	15	4,238	235	50,105
Private.....	20	517	27	558	2	277	—	—	49	1,352
Federal.....	8	3,699	1	150	—	—	—	—	9	3,849
Manitoba	82	4,907	5	1,128	4	3,366	6	1,053	97	10,454
Public.....	73	4,054	3	998	4	3,366	3	623	83	9,041
Private.....	4	42	2	130	—	—	—	—	6	172
Federal.....	5	811	—	—	—	—	3	430	8	1,241
Saskatchewan	150	6,002	10	154	3	3,435	3	803	166	10,394
Public.....	145	5,830	5	12	3	3,435	3	803	156	10,080
Private.....	3	5	3	12	—	—	—	—	6	17
Federal.....	2	167	2	130	—	—	—	—	4	297
Alberta	104	8,029	7	335	6	4,380	2	584	119	13,328
Public.....	96	6,866	4	247	6	4,380	2	584	108	12,077
Private.....	3	85	2	18	—	—	—	—	5	103
Federal.....	5	1,078	1	70	—	—	—	—	6	1,148
British Columbia	102	8,923	64	2,381	8	4,922	7	1,231	181	17,457
Public.....	89	7,333	8	685	7	4,852	4	655	108	13,525
Private.....	10	190	53	1,423	1	70	—	—	64	1,683
Federal.....	3	1,400	3	273	—	—	3	576	9	2,249
Yukon and Northwest Territories	10	613	—	—	—	—	—	—	10	613
Public.....	10	613	—	—	—	—	—	—	10	613
Private.....	—	—	—	—	—	—	—	—	—	—
Federal.....	—	—	—	—	—	—	—	—	—	—
Canada, 1956	896	87,856	226	14,093	75	55,576	62	14,602	1,259	172,127
Public.....	796	75,384	76	10,634	71	55,148	55	13,581	998	154,747
Private.....	65	1,335	139	2,803	4	428	1	15	209	4,581
Federal.....	35	11,137	11	656	—	—	6	1,006	52	12,799

2.—Hospitals Reporting and Bed Capacity (excluding Bassinets) classified by Type of Hospital and Type of Service, by Province, 1956 and 1957—concluded

Year, Province and Type	General		Special		Mental		Tuberculosis		All Hospitals	
	No.	Beds	No.	Beds	No.	Beds	No.	Beds	No.	Beds
1957										
Newfoundland	37	1,693	1	8	1	650	2	550	41	2,901
Public.....	37	1,693	1	8	1	650	2	550	41	2,901
Private.....	—	—	—	—	—	—	—	—	—	—
Federal.....	—	—	—	—	—	—	—	—	—	—
Prince Edward Island ..	8	657	—	—	2	535	1	104	11	1,296
Public.....	8	657	—	—	2	535	1	104	11	1,296
Private.....	—	—	—	—	—	—	—	—	—	—
Federal.....	—	—	—	—	—	—	—	—	—	—
Nova Scotia	50	4,100	3	115	17	2,927	4	761	74	7,903
Public.....	43	3,214	2	108	17	2,927	4	761	66	7,010
Private.....	1	11	—	—	—	—	—	—	1	11
Federal.....	6	875	1	7	—	—	—	—	7	882
New Brunswick	34	2,813	5	203	2	1,150	5	899	46	5,065
Public.....	31	2,277	3	184	2	1,150	5	899	41	4,510
Private.....	1	11	—	—	—	—	—	—	1	11
Federal.....	2	525	2	19	—	—	—	—	4	544
Quebec	133	22,178	102	6,203	13	15,896	16	4,173	264	48,450
Public.....	103	18,966	28	5,245	12	15,776	16	4,173	159	44,180
Private.....	26	630	73	951	1	120	—	—	100	1,701
Federal.....	4	2,582	1	7	—	—	—	—	5	2,589
Ontario	204	29,623	59	4,637	21	17,949	15	4,174	299	56,383
Public.....	179	25,558	26	3,821	18	17,658	15	4,174	238	51,211
Private.....	17	448	32	666	3	291	—	—	52	1,405
Federal.....	8	3,617	1	150	—	—	—	—	9	3,767
Manitoba	78	4,884	3	595	4	3,366	6	975	91	9,820
Public.....	71	4,066	2	545	4	3,366	3	585	80	8,562
Private.....	4	42	1	50	—	—	—	—	5	92
Federal.....	3	776	—	—	—	—	3	390	6	1,166
Saskatchewan	153	6,211	5	16	3	3,020	3	803	164	10,050
Public.....	150	5,984	—	—	3	3,020	3	803	156	9,807
Private.....	—	—	5	16	—	—	—	—	5	16
Federal.....	3	227	—	—	—	—	—	—	3	227
Alberta	105	8,197	8	407	6	4,380	2	595	121	13,579
Public.....	97	7,049	5	319	6	4,380	2	595	110	12,343
Private.....	3	78	2	18	—	—	—	—	5	96
Federal.....	5	1,070	1	70	—	—	—	—	6	1,140
British Columbia	102	8,880	64	2,529	8	4,975	6	1,135	180	17,519
Public.....	89	7,251	7	556	7	4,905	3	559	106	13,271
Private.....	9	229	56	1,712	1	70	—	—	66	2,011
Federal.....	4	1,400	1	261	—	—	3	576	8	2,237
Yukon and Northwest Territories	14	678	—	—	—	—	—	—	14	678
Public.....	12	657	—	—	—	—	—	—	12	657
Private.....	2	21	—	—	—	—	—	—	2	21
Federal.....	—	—	—	—	—	—	—	—	—	—
Canada, 1957	918	89,914	250	14,713	77	54,848	60	14,169	1,305	173,644
Public.....	820	77,372	74	10,786	72	54,367	54	13,203	1,020	155,728
Private.....	63	1,470	169	3,413	5	481	—	—	237	5,364
Federal.....	35	11,072	7	514	—	—	6	966	48	12,552

Public and Private Hospitals.—Table 3 indicates the substantial increases that occurred over the 1952-57 period in the amount of space available and the volume of care provided in public and private general and special hospitals. In 1957 there were 894 reporting hospitals, 117 more than in 1952; they had six beds for every five at the beginning of the 1952-57 period. They provided an in-patient bed at some time during 1957 for four out of each 25 Canadians, and gave on the average one and seven-tenths days of care during the year to every man, woman, child and infant in the country. The number of private hospitals reporting during those five years increased from 187 to 232, a higher rate of increase than for public hospitals. Similarly, there was a greater percentage increase in patient-days for private hospitals (49.7 p.c.) than for public institutions (26.9 p.c.).

3.—Summary Statistics of Reporting Public and Private General and Special Hospitals 1952-57

Item	1952	1953	1954	1955	1956	1957
	No.	No.	No.	No.	No.	No.
Public General and Special—						
Hospitals reporting.....	777	810	817	858	872	894
Bed capacity ¹	78,666	81,752	87,401	95,431	99,484	102,074
Patients under care ²	2,107,880	2,226,293	2,309,391	2,509,847	2,658,427	2,785,995
Patient-days during year ²	22,331,887	23,075,013	24,278,433	26,047,445	27,323,693	28,340,344
Private General and Special—						
Hospitals reporting.....	187	143	169	175	204	232
Bed capacity ¹	3,884	3,271	3,977	4,231	4,638	5,443
Patients under care ²	60,432	50,107	62,968	66,096	75,635	76,796
Patient-days during year ²	992,425	853,324	996,097	1,014,898	1,301,803	1,485,936

¹ Includes bassinets.

² Includes newborn.

4.—Movement of Patients and Number of Personnel of Reporting Public Hospitals, by Province, 1956 and 1957

Item	Newfoundland	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario
	No.	No.	No.	No.	No.	No.
1956						
Hospitals reporting.....	30	7	45	34	120	203
Movement of Patients—¹						
Admissions.....	45,154	16,731	108,814	94,808	557,744	892,303
Total under care.....	46,424	17,091	111,169	96,524	572,817	914,293
Discharges.....	44,285	16,357	106,350	92,877	544,305	868,746
Deaths.....	907	387	2,392	1,911	12,759	23,169
Patient-days during year.....	550,808	159,514	955,743	797,010	6,908,195	9,315,301
Personnel—²						
Salaried doctors, full-time.....	53	2	23	12	213	206
Interns.....	18	—	72	22	813	733
Graduate nurses.....	281	109	984	690	4,485	10,579
Student nurses.....	225	162	962	641	3,960	6,001
Other personnel.....	1,390	323	2,470	2,165	18,996	28,658
Totals, Personnel.....	1,967	596	4,511	3,530	28,467	46,177

For footnotes, see end of table, p. 248.

4.—Movement of Patients and Number of Personnel of Reporting Public Hospitals, by Province, 1956 and 1957—concluded

Item	Manitoba	Saskatchewan	Alberta	British Columbia	Yukon and N.W.T.	Canada
	No.	No.	No.	No.	No.	No.
1956—concluded						
Hospitals reporting.....	76	150	100	97	10	872 ³
Movement of Patients—¹						
Admissions.....	144,981	203,957	262,852	263,517	4,228	2,595,089
Total under care.....	148,420	208,924	268,230	269,876	4,659	2,658,427
Discharges.....	140,991	199,820	258,742	256,541	4,264	2,533,278
Deaths.....	3,785	4,180	4,178	6,725	63	60,456
Patient-days during year.....	1,473,288	2,036,515	2,281,315	2,713,888	137,116	27,328,693
Personnel—²						
Salaried doctors, full-time.....	21	23	28	43	—	624
Interns.....	130	70	123	159	—	2,140
Graduate nurses.....	1,172	1,720	2,087	3,054	43	25,204
Student nurses.....	767	1,340	1,249	1,319	—	16,626
Other personnel.....	4,292	5,726	5,888	7,437	183	77,528
Totals, Personnel.....	6,392	8,879	9,375	12,012	226	122,122
	Newfoundland	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario
	No.	No.	No.	No.	No.	No.
1957						
Hospitals reporting.....	38	8	45	34	131	205
Movement of Patients—¹						
Admissions.....	48,412	16,700	111,830	97,263	607,259	936,711
Total under care.....	49,530	17,058	114,291	98,999	624,045	959,097
Discharges.....	47,261	16,278	109,256	95,195	593,033	910,579
Deaths.....	899	422	2,537	1,950	14,146	24,616
Patient-days during year.....	540,150	159,049	986,207	801,406	7,520,896	9,754,078
Personnel—²						
Salaried doctors, full-time.....	46	2	28	13	241	233
Interns.....	23	3	81	28	965	803
Graduate nurses.....	332	107	1,116	790	5,143	11,867
Student nurses.....	401	174	1,064	676	4,270	6,310
Other personnel.....	1,452	347	2,551	2,381	21,837	31,281
Totals, Personnel.....	2,254	633	4,840	3,888	32,456	49,944
	Manitoba	Saskatchewan	Alberta	British Columbia	Yukon and N.W.T.	Canada
	No.	No.	No.	No.	No.	No.
Hospitals reporting.....	73	150	102	96	12	894
Movement of Patients—¹						
Admissions.....	154,721	212,820	261,415	267,015	6,870	2,721,016
Total under care.....	157,907	217,764	266,558	273,501	7,245	2,785,995
Discharges.....	150,816	208,722	256,873	259,939	6,719	2,654,671
Deaths.....	3,777	4,203	4,229	6,851	105	63,735
Patient-days during year.....	1,367,549	2,055,031	2,288,175	2,720,874	146,929	28,340,344
Personnel—²						
Salaried doctors, full-time.....	21	28	21	43	1	677
Interns.....	141	94	129	177	—	2,444
Graduate nurses.....	1,271	1,825	2,396	3,174	64	27,585
Student nurses.....	826	1,356	1,515	1,287	—	17,879
Other personnel.....	4,505	5,947	6,448	7,767	236	84,702
Totals, Personnel.....	6,764	9,250	10,509	12,448	301	133,287

¹ Includes newborn. ² Includes part-time personnel except part-time salaried doctors. ³ Excludes one hospital in Quebec and one hospital in British Columbia which reported movement of patients but did not report personnel.

5.—Finances of Reporting Public Hospitals, by Province, 1956 and 1957

Item	New- foundland	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario
	No.	No.	No.	No.	No.	No.
1956						
Hospitals reporting.....	6	7	45	33	117	202
	\$	\$	\$	\$	\$	\$
Revenue	1,331,271	1,386,732	10,003,144	9,183,240	79,466,714	121,830,041
Net earnings from patients.....	957,104	1,161,928	8,819,048	7,728,704	71,468,424	104,824,024
Provincial and municipal grants...	328,230	169,599	780,071	1,318,625	2,201,071	12,264,226
Other revenue.....	45,937	55,205	404,025	135,911	5,797,219	4,741,791
Expenditure	1,541,688	1,603,921	12,069,509	10,515,998	86,244,342	133,718,598
Salaries and wages (gross).....	813,411	735,887	5,902,835	5,094,242	46,432,006	82,572,518
Direct expense.....	523,628	513,736	4,157,186	3,018,647	24,204,544	30,386,813
Other expenditure.....	204,649	354,298	2,009,488	2,409,109	15,607,792	20,759,267
Cost per Patient-Day¹	10.68	9.37	12.23	12.54	11.95	13.88
	Manitoba	Saskat- chewan	Alberta	British Columbia	Yukon and N.W.T.	Canada
	No.	No.	No.	No.	No.	No.
Hospitals reporting.....	72	145	97	95	9	828 ²
	\$	\$	\$	\$	\$	\$
Revenue	15,633,472	25,596,259	27,171,505	37,787,140	903,157	330,292,675
Net earnings from patients.....	15,001,463	24,524,870	24,192,564	35,313,960	696,668	294,688,757
Provincial and municipal grants...	169,484	360,058	2,682,253	1,370,105	81,654	21,725,376
Other revenue.....	462,525	711,331	296,688	1,103,075	124,835	13,878,542
Expenditure	17,076,727	27,161,939	29,187,724	41,078,480	947,900	361,146,826
Salaries and wages (gross).....	10,345,473	16,847,550	16,864,534	27,671,663	376,341	213,656,460
Direct expense.....	3,868,324	6,187,030	7,263,411	8,181,924	448,295	88,747,538
Other expenditure.....	2,862,930	4,127,359	5,059,779	5,224,893	123,264	58,742,828
Cost per Patient-Day¹	11.41	12.82	12.70	14.60	9.11	12.98
	New- foundland	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario
	No.	No.	No.	No.	No.	No.
1957						
Hospitals reporting.....	5	8	46	33	122	205
	\$	\$	\$	\$	\$	\$
Revenue	4,059,894	1,468,727	10,687,031	10,265,299	89,956,203	138,677,197
Net earnings from patients.....	1,641,039	1,237,672	9,484,858	8,617,650	81,752,784	118,792,774
Provincial and municipal grants...	2,309,823	167,220	800,650	1,432,248	1,460,651	14,705,960
Other revenue.....	109,032	63,835	401,523	215,401	6,742,768	5,178,463
Expenditure	4,370,899	1,718,351	13,228,152	11,476,605	98,602,189	151,154,048
Salaries and wages (gross).....	2,394,815	812,915	6,712,728	5,826,958	54,187,481	95,013,275
Direct expense.....	1,358,275	541,158	4,350,400	3,039,573	26,515,920	33,190,251
Other expenditure.....	617,809	364,278	2,165,024	2,610,074	17,898,787	22,950,522
Cost per Patient-Day¹	15.05	10.14	12.97	13.81	12.81	15.01

For footnotes, see end of table, p. 250.

5.—Finances of Reporting Public Hospitals, by Province, 1956 and 1957—concluded

Item	Manitoba	Saskatchewan	Alberta	British Columbia	Yukon and N.W.T.	Canada
	No.	No.	No.	No.	No.	No.
1957—concluded						
Hospitals reporting.....	68	146	99	95	9	836 ²
	\$	\$	\$	\$	\$	\$
Revenue	17,368,871	27,834,669	30,713,818	40,926,377	941,491	372,899,577
Net earnings from patients.....	16,840,614	26,641,431	26,950,424	37,939,248	781,589	330,680,083
Provincial and municipal grants...	161,271	510,014	3,186,022	1,600,600	139,542	26,474,000
Other revenue.....	366,987	683,224	577,372	1,386,529	20,360	15,745,494
Expenditure	18,789,285	30,015,197	33,187,927	44,601,932	953,896	408,102,580
Salaries and wages (gross).....	11,479,054	18,827,705	20,023,670	29,844,025	..	245,122,625
Direct expense.....	4,126,351	6,652,530	7,814,975	8,665,899	..	96,255,332
Other expenditure.....	3,183,881	4,534,962	5,348,381	6,092,008	958,896	66,724,622
Cost per Patient-Day¹	13.64	14.11	14.41	15.80	10.68	14.17

¹ Includes newborn.² Forty-four public hospitals reporting other information did not report finances.

* Fifty-eight public hospitals reporting other information did not report finances.

Mental Institutions.—Four of every 1,000 Canadians were patients in the country's 106 mental institutions at the end of 1957. The number of patients was 65,768, a figure 661 above the 1956 year-end total and roughly double the 33,000 of 1932 when the hospital series were begun. Annual data from 1948 onward show continuous numerical advances, although in the three years 1955-57 the rate per 100,000 population declined slightly. The data on mental institutions, except for staff, include psychiatric units in other hospitals.

Since bed capacity stood at 57,193 at the end of 1957, a net overcrowding of 8,575 patients or 14.9 p.c. is indicated. A year before, this margin had been 7,093 or 12.2 p.c. The admission (first and re-admission) rate per 100,000 population was higher than ever during 1957, although the percentage increase between 1956 and 1957 was very small. Much of the increase in admissions during the past ten years is probably accounted for by the increase in the number of psychiatric units with small bed capacities and high patient turnover rates.

The ratio of staff to patients reached a new high in 1957. Mental hospitals at the end of 1957 had 23,095 full-time personnel—2,497 more than in 1956—representing 35.5 employees for every 100 patients. Psychiatric units are not included in these figures because of the difficulty of segregating their maintenance staffs; psychiatric units ordinarily utilize the services of their parent hospitals.

6.—Summary Statistics of Mental Institutions, Selected Years 1932-57

Year	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Canada
MENTAL HOSPITALS AND PSYCHIATRIC UNITS ¹ REPORTING											
1932.....	..	1	18	1	9	16	4	2	3	4	58
1936.....	..	1	16	1	9	16	4	2	4	4	57
1940.....	..	1	17	1	9	17	4	2	5	4	60
1944.....	..	1	17	1	9	16	4	2	5	4	59
1949.....	1	1	18	1	9	17	4	4	5	4	64
1952.....	1	1	18	1	15	20	4	4	6	5	75
1955.....	1	1	18	4	15	23	6	5	8	11	97
1956.....	1	2	18	4	19	29	6	6	8	11	104
1957.....	1	2	18	3	18	33	6	6	8	11	106

¹ Includes 23 units in 1955, 27 in 1956 and 27 in 1957.

6.—Summary Statistics of Mental Institutions, Selected Years 1932-57—continued

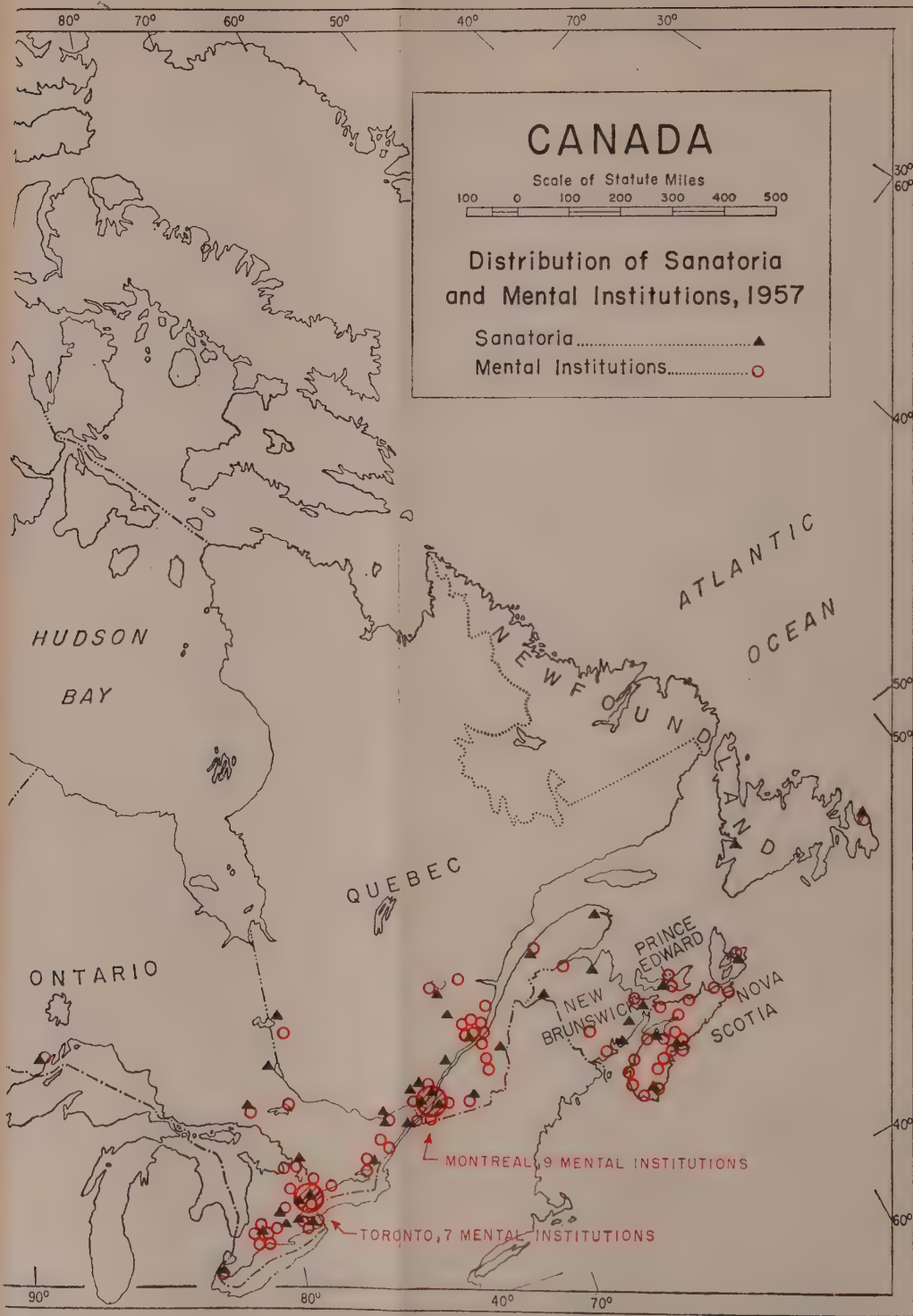
Year	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Canada
PATIENTS IN INSTITUTIONS AT DEC. 31											
1932.....	..	262	1,525	883	9,439	11,626	2,329	2,561	1,870	2,795	33,290
1936.....	..	260	2,024	1,006	11,472	13,574	2,669	3,133	2,430	3,265	39,833
1940.....	..	267	2,182	1,146	12,841	14,553	2,819	3,767	2,755	3,833	44,163
1944.....	..	274	2,236	1,285	14,074	15,140	3,024	4,169	3,069	4,008	47,279
1949.....	676	292	2,313	1,397	15,316	17,260	3,165	4,447	3,169	4,628	52,663
1952.....	779	303	2,412	1,686	16,971	18,710	3,378	4,572	3,780	5,030	57,621
1955.....	920	309	2,953	1,847	17,734	20,657	3,707	4,644	4,453	6,459	63,683
1956.....	952	481	2,902	1,828	18,663	21,172	3,681	4,577	4,466	6,385	65,107
1957.....	963	473	2,931	1,826	18,864	21,538	3,759	4,512	4,520	6,382	65,768
PATIENTS PER 100,000 POPULATION											
1932.....	..	294.4	293.8	213.3	322.7	334.8	330.4	277.2	252.7	395.3	317.2
1936.....	..	279.6	372.7	232.3	370.2	376.5	375.3	336.3	314.4	438.1	364.3
1940.....	..	281.1	383.5	253.5	391.7	388.4	387.2	418.6	348.7	476.1	388.6
1944.....	..	301.1	366.0	278.7	402.1	382.0	416.0	498.7	379.8	430.0	396.3
1949.....	195.9	310.6	367.7	275.0	394.5	394.2	418.1	534.5	358.1	415.8	392.3
1952.....	208.3	303.0	369.4	320.5	406.6	390.8	423.3	542.3	388.5	417.4	399.2
1955.....	226.6	309.0	432.4	337.7	392.6	392.3	441.8	528.9	408.2	481.3	406.4
1956.....	229.3	484.4	417.7	329.6	403.2	391.7	433.1	519.7	397.6	456.6	405.7
1957.....	226.1	477.8	417.5	323.2	396.5	383.1	437.1	513.3	389.7	429.2	397.2
BED CAPACITY											
1932.....	..	300	1,951	900	8,875	11,666	2,249	2,450	1,875	2,685	32,951
1936.....	..	275	2,126	1,025	11,484	13,050	2,272	2,600	2,092	2,455	37,379
1940.....	..	275	2,474	1,160	11,916	13,617	2,348	2,700	2,494	2,457	39,441
1944.....	..	275	2,546	1,150	13,150	14,497	2,578	2,970	2,873	2,461	42,500
1949.....	530	250	2,346	1,100	13,732	14,290	2,477	3,711	2,558	3,061	44,055
1952.....	530	250	2,672	1,100	16,280	15,415	2,577	2,928	3,506	3,635	48,893
1955.....	650	300	2,995	1,150	17,471	18,391	3,237	3,508	4,296	5,011	57,009
1956.....	650	486	2,989	1,151	17,910	18,409	3,452	3,530	4,418	5,019	58,014
1957.....	650	535	2,949	1,161	16,600	19,234	3,452	3,114	4,416	5,082	57,193
BED CAPACITY PER 100,000 POPULATION											
1932.....	..	337.1	375.9	217.4	303.4	335.8	319.0	265.2	253.4	379.8	313.9
1936.....	..	295.7	391.5	236.7	370.6	361.9	319.5	279.1	270.7	329.4	341.9
1940.....	..	289.5	434.8	256.7	363.7	363.4	322.5	300.0	315.7	305.2	347.1
1944.....	..	302.2	416.7	249.5	375.7	365.8	354.6	355.3	355.6	264.1	356.3
1949.....	153.6	266.0	373.0	216.5	353.7	326.4	327.2	446.0	289.0	275.0	328.2
1952.....	141.7	250.0	409.2	209.1	390.0	322.0	322.9	347.3	360.3	301.7	338.7
1955.....	160.1	300.0	438.5	210.2	386.8	349.2	385.8	399.5	393.8	373.4	363.8
1956.....	156.6	489.4	430.3	207.5	387.0	340.6	406.1	400.8	393.4	358.9	361.5
1957.....	152.6	540.4	420.1	205.5	348.9	342.1	401.4	354.3	380.7	341.8	345.4
FIRST ADMISSIONS AND RE-ADMISSIONS											
1932.....	..	89	418	180	2,504	3,756	668	626	520	695	9,456
1936.....	..	97	433	273	3,027	4,228	599	775	781	910	11,123
1940.....	..	85	488	333	2,503	3,578	564	744	600	928	9,823
1944.....	..	112	617	414	3,317	4,118	716	725	658	1,122	11,799
1949.....	174	104	666	492	3,410	5,339	793	1,269	857	2,372	15,476
1952.....	322	182	848	677	5,936	6,240	924	1,496	1,185	3,147	20,957

6.—Summary Statistics of Mental Institutions, Selected Years 1932-57—concluded

Year	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Canada
FIRST ADMISSIONS AND RE-ADMISSIONS—concluded											
1955.....	255	187	1,671	1,020	7,308	10,078	1,571	1,748	2,633	5,751	32,222
956.....	267	217	1,659	992	10,396	10,827	1,684	2,129	2,546	5,721	36,438
57.....	285	261	1,643	1,107	10,196	12,447	1,745	2,193	2,504	5,291	37,672
FIRST ADMISSIONS AND RE-ADMISSIONS PER 100,000 POPULATION											
1932.....	..	100.0	80.5	43.5	85.6	108.1	94.7	67.7	70.3	98.3	90.1
1936.....	..	104.3	79.7	63.0	97.7	117.3	84.2	83.2	101.1	122.1	101.7
1940.....	..	89.5	85.8	73.7	76.4	95.5	77.5	82.7	75.9	115.3	86.4
1944.....	..	123.1	101.0	89.8	94.8	103.9	98.5	86.7	81.4	120.4	98.9
1949.....	50.4	110.6	105.9	96.9	87.8	122.0	104.8	152.5	96.8	213.1	115.3
1952.....	86.1	182.0	129.9	128.7	142.2	130.3	115.8	177.5	121.8	261.2	145.2
1955.....	62.8	187.0	244.7	186.5	161.8	191.4	187.2	199.1	241.3	428.5	205.6
1956.....	64.3	218.5	238.8	178.9	224.6	200.3	198.1	241.7	226.7	409.1	227.0
1957.....	66.9	263.6	234.0	195.9	214.3	221.4	202.9	249.5	215.9	355.8	227.5
FULL-TIME PERSONNEL ¹											
1932.....	..	58	305	83	1,592	2,723	526	403	344	524	6,558
1936.....	..	69	316	128	2,232	2,661	538	471	423	592	7,430
1940.....	..	64	357	171	2,177	3,317	648	731	503	721	8,689
1944.....	..	65	351	159	2,279	3,248	617	723	567	897	8,906
1949.....	267	78	476	274	2,871	4,498	794	1,253	853	1,448	12,812
1952.....	338	101	598	349	3,479	5,659	820	1,332	1,161	1,919	15,756
1955.....	426	98	644	522	3,812	6,800	1,000	1,406	1,496	2,339	18,543
1956.....	457	146	746	560	4,177	7,804	1,073	1,495	1,559	2,581	20,598
1957.....	524	182	945	660	4,621	8,962	1,103	1,720	1,675	2,703	23,095
FULL-TIME PERSONNEL PER 100 PATIENTS AT DEC. 31 ¹											
1932.....	..	22.1	20.0	9.4	16.9	23.4	22.6	15.7	18.4	18.7	19.7
1936.....	..	26.5	15.6	12.7	19.5	19.6	20.2	15.0	17.4	18.1	18.7
1940.....	..	24.0	16.4	14.9	17.0	22.8	23.0	19.4	18.3	18.8	19.7
1944.....	..	23.7	15.7	12.4	16.2	21.5	20.4	17.3	18.5	22.4	18.8
1949.....	39.5	26.7	20.6	19.6	18.7	26.1	25.1	28.2	26.9	31.3	24.3
1952.....	43.4	33.3	24.8	20.7	20.5	20.2	24.3	29.1	30.7	38.2	27.3
1955.....	46.3	31.7	22.0	28.4	22.4	34.7	27.6	30.6	34.0	36.6	30.1
1956.....	48.0	30.4	25.9	30.8	22.8	37.3	29.8	33.0	35.1	40.9	32.0
1957.....	54.4	38.5	32.4	36.2	24.8	42.2	30.0	38.6	37.3	43.0	35.5
COST PER PATIENT-DAY ²											
1932.....	..	0.92	0.72	0.64	0.50	1.11	0.96	0.89	1.28	1.10	0.88
1936.....	..	1.18	0.71	0.68	0.62	0.87	0.85	0.94	0.93	0.94	0.80
1940.....	..	1.32	0.78	0.89	0.67	1.06	0.99	1.02	0.94	1.06	0.92
1944.....	..	1.69	0.93	1.05	0.83	1.17	1.04	1.10	1.05	1.19	1.03
1949.....	2.74	2.32	1.67	1.81	1.30	2.18	1.83	2.42	2.17	3.01	1.94
1952.....	4.29	2.79	2.11	2.15	1.63	2.91	2.22	2.89	2.74	3.87	2.53
1955.....	5.17	3.44	2.11	3.01	1.83	3.31	2.79	3.93	3.39	4.29	2.97
1956.....	5.35	3.98	2.47	3.46	2.19	..	3.02	3.95	3.78	4.69	3.35
1957.....	5.96	2.93	2.94	4.15	2.44	..	3.30	4.47	4.09	4.90	3.70

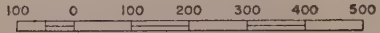
¹ Excludes personnel of psychiatric units.
ment and psychiatric units of general hospitals.² Excludes institutions under jurisdiction of the Federal Govern-





CANADA

Scale of Statute Miles



Distribution of Sanatoria and Mental Institutions, 1957

- Sanatoria.....▲
- Mental Institutions.....○

HUDSON BAY

ONTARIO

QUEBEC

ATLANTIC OCEAN

NEW BRUNSWICK

PRINCE EDWARD

NOVA SCOTIA

MONTREAL, 9 MENTAL INSTITUTIONS

TORONTO, 7 MENTAL INSTITUTIONS

7.—Finances of Reporting Mental Institutions, by Province, 1957

Item	New- foundland	Prince Edward Island	Nova Scotia ¹	New Brunswick	Quebec	Ontario
	\$	\$	\$	\$	\$	\$
Revenue	2,092,938	508,894	2,938,839	2,770,800	15,140,438	31,523,920
Government and municipal pay- ments.....	2,020,103	457,939	2,546,670	2,510,845	12,656,696	27,876,954
Paying patients.....	72,335	50,955	287,714	258,444	1,697,208	3,193,868
Other sources.....	—	—	104,455	1,511	786,534	453,098
Expenditure	2,092,938	508,894	2,958,464	2,770,800	15,333,695	31,523,920
Salaries (net).....	1,100,376	231,200	1,511,424	1,514,225	7,087,269	21,684,175
Provisions (food).....	534,559	116,487	601,416	420,518	2,697,137	3,506,385
Other maintenance expenditure....	458,003	161,207	845,624	736,057	5,549,289	6,334,360
	Manitoba	Saskat- chewan	Alberta	British Columbia ²	Yukon and N.W.T.	Canada
	\$	\$	\$	\$	\$	\$
Revenue	4,503,499	7,909,356	6,813,837	11,532,326	—	85,734,847
Government and municipal pay- ments.....	3,867,271	7,622,693	5,851,778	10,601,366	—	76,012,315
Paying patients.....	578,576	226,513	775,382	930,960	—	8,072,455
Other sources.....	57,652	60,150	186,677	—	—	1,650,077
Expenditure	4,441,818	7,322,261	6,813,837	11,532,326	—	85,301,953
Salaries (net).....	2,787,639	5,058,258	4,935,438	6,440,275	—	52,450,279
Provisions (food).....	846,647	1,044,852	803,163	2,187,210	—	12,817,374
Other maintenance expenditure....	810,532	1,219,151	1,015,236	2,904,841	—	20,034,300

¹ Includes 1956 data for two hospitals that did not report later data.

² Includes 1956-57 data for seven hospitals that did not report later data.

Tuberculosis Sanatoria and Units.—The effects of the development of new therapeutic techniques were in evidence at the end of 1957. At that time the number of beds devoted to care of the tuberculous in Canada was only 15,958, a drop of 1,725 in three years. Table 8 indicates the provincial distribution of the bed complement and its location in various types of institution. Table 9 gives information on patients, personnel and facilities. Patient-days were down by 9.2 p.c. from 5,250,555 in 1956 to 4,766,306 in 1957, and personnel (in sanatoria only) dropped 2.8 p.c. from 9,739 to 9,464. Finances of public sanatoria are covered briefly in Table 10.

8.—Bed Complement of Tuberculosis Sanatoria and Units, by Province, 1957

Item	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	N.W.T.	Canada
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
Public sanatoria.....	550	99	717	817	3,914	4,137	584	803	580	559	—	12,760
Federal Government sanatoria.....	—	—	—	—	—	—	448	—	—	540	—	988
Units in public hospitals....	107	—	25	—	363	—	—	—	—	250	201	1,046
Units in Federal Govern- ment hospitals.....	—	—	—	26	364	209	—	65	500	—	—	1,164
Totals, Bed Complement..	657	99	742	843	4,611	4,346	1,032	868	1,080	1,349	201	15,958

9.—Movement of Patients, Personnel and Facilities of Tuberculosis Sanatoria and Units, by Province, 1957

Item	New- foundland	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario
	No.	No.	No.	No.	No.	No.
Movement of Patients—						
Admissions.....	930	74	1,605	1,408	8,213	4,401
Discharges ¹	1,007	76	1,664	1,418	8,229	4,672
Deaths.....	35	5	47	41	409	270
Patients under care.....	1,523	166	1,598	1,921	11,541	7,516
Collective stay in days.....	219,808	30,528	219,923	237,491	1,520,688	1,204,850
Personnel².....	447	78	698	641	2,452	2,433
Salaried doctors.....	17	6	21	23	209	90
Graduate nurses.....	50	11	92	102	288	335
Other personnel.....	380	61	585	516	1,955	2,008
Hospital Facilities—²						
X-ray.....	2	1	4	5	15	12
Clinical laboratory.....	2	1	4	3	15	12
Physiotherapy.....	1	1	2	1	7	3
	Manitoba	Saskat- chewan	Alberta	British Columbia	Northwest Territories	Canada
	No.	No.	No.	No.	No.	No.
Movement of Patients—						
Admissions.....	1,696	806	932	1,372	136	21,573
Discharges ¹	1,678	851	923	1,386	107	22,011
Deaths.....	77	24	55	79	10	1,052
Patients under care.....	2,245	1,335	1,695	2,415	277	32,232
Collective stay in days.....	342,208	232,486	273,646	419,808	64,870	4,766,306
Personnel².....	671	554	472	1,018	—	9,464
Salaried doctors.....	17	16	17	25	—	441
Graduate nurses.....	61	52	77	184	—	1,252
Other personnel.....	593	486	378	809	—	7,771
Hospital Facilities—²						
X-ray.....	5	1	1	2	—	48
Clinical laboratory.....	5	3	2	4	—	51
Physiotherapy.....	2	—	1	1	—	19

¹ Excludes deaths.² Sanatoria only.

10.—Finances of Public Tuberculosis Sanatoria, by Province, 1957

(Exclusive of Federal Government sanatoria)

Item	New- foundland	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario
	No.	No.	No.	No.	No.	No.
Sanatoria reporting.....	2	1	4	5	15	15
	\$	\$	\$	\$	\$	\$
Revenue.....	1,624,336	253,364	2,198,147	2,403,018	8,000,155	9,569,065
Government and municipal grants and payments.....	1,579,233	212,179	1,911,990	2,142,106	6,256,995	6,414,779
Paying patients.....	—	24,814	—	139,965	437,113	100,643
Other sources.....	45,103	16,371	286,157	120,947	1,306,047	3,053,643
Expenditure.....	1,624,336	253,364	2,198,147	2,403,021	8,011,740	9,351,818
Salaries and wages.....	898,073	137,286	1,194,954	1,327,411	3,908,807	5,642,647
Supplies.....	552,217	93,945	710,104	577,098	2,183,261	1,995,148
Other expenditure.....	174,046	22,133	293,089	498,512	1,919,672	1,714,023
Cost per Patient-Day.....	8.99	8.29	11.20	10.32	6.63	7.99

10.—Finances of Public Tuberculosis Sanatoria, by Province, 1957—concluded

Item	Manitoba	Saskatchewan	Alberta	British Columbia ¹	Yukon and N.W.T.	Canada
	No.	No.	No.	No.	No.	No.
Sanatoria reporting.....	3	3	2	3	—	53
	\$	\$	\$	\$	\$	\$
Revenue	1,282,086	2,017,232	2,218,567	2,904,712	—	32,470,682
Government and municipal grants and payments.....	1,051,251	1,352,365	1,912,745	2,462,269	—	25,295,912
Paying patients.....	1,028	—	—	88,106	—	791,669
Other sources.....	229,807	664,867	305,822	354,337	—	6,383,101
Expenditure	1,283,932	1,940,045	2,218,567	2,904,712	—	32,189,682
Salaries and wages.....	724,063	1,360,227	1,513,483	2,084,238	—	18,791,189
Supplies.....	291,426	396,434	460,141	499,317	—	7,750,091
Other expenditure.....	268,443	183,384	244,943	321,157	—	5,639,402
Cost per Patient-Day	7.02	9.19	12.75	15.78	—	8.54

¹ Includes all institutions operated by the Provincial Division of Tuberculosis Control.

Federal Government Hospitals.—Under the terms of the British North America Act, health and welfare is the responsibility of the provinces. Nevertheless the Federal Government is responsible for the health of certain groups such as war veterans and members of the Armed Forces, newly arrived immigrants, Indians and Eskimos, and lepers. The federal hospitals are administered by three departments of government: in 1957 the Department of Veterans Affairs administered 15; the Department of National Defence 7; the Department of National Health and Welfare's Indian and Northern Health Services 17; and the Department of National Health and Welfare's Quarantine, Immigration Medical, and Sick Mariners' Services 9. Certain hospitals of the Department of National Defence, as well as hospitals that closed during the year, are not generally included in the figures of Table 11.

11.—Summary Statistics of Federal Government Hospitals 1956 and 1957

Item	Department of Veterans Affairs	Department of National Defence	Department of National Health and Welfare		Total
			Indian and Northern Health Services	Quarantine, Immigration Medical, and Sick Mariners' Services ¹	
	No.	No.	No.	No.	No.
1956					
Hospitals reporting.....	16	8	18	10	52
Beds²	9,453	775	2,193	378	12,799
General.....	5,318	773	583	184	6,858
Tuberculosis.....	357	—	1,610	101	2,068
Mental.....	1,676	—	—	—	1,676
Other.....	2,102	2	—	93	2,197
Personnel	9,069	1,095	1,802	232	12,198
Salaried doctors.....	125	87	57	23	292
Graduate nurses.....	1,424	172	349	67	2,002
Other personnel.....	7,520	836	1,396	162	9,904
Facilities—					
Laboratory.....	12	8	18	9	47
Radiology.....	11	8	18	5	42
Physiotherapy.....	13	7	5	2	27
Out-patient service.....	10	8	16	9	43

For footnotes, see end of table, p. 256.

11.—Summary Statistics of Federal Government Hospitals 1956 and 1957—concluded

Item	Department of Veterans Affairs	Department of National Defence	Department of National Health and Welfare		Total
			Indian and Northern Health Services	Quarantine, Immigration, Medical, and Sick Mariners' Services ¹	
	No.	No.	No.	No.	No.
1956—concluded					
Movement of Patients—					
In hospital at beginning of year.....	6,905	377	1,886	231	9,399
Admissions.....	51,811	16,359	13,081	1,311	82,562
Discharges.....	49,524	16,325	13,027	1,341	80,217
Deaths.....	2,391	22	183	16	2,612
In hospital at end of year.....	6,801	389	1,757	185	9,132
Patient-days during year.....	2,767,163	246,822	666,149	75,992	3,756,126
Average daily number of patients.....	7,560.4	674.4	1,820.1	207.6	10,262.6
Percentage occupancy.....	80.0	87.0	83.0	54.9	80.2
1957					
Hospitals reporting.....	15	7	17	9	48
Beds²	9,333	725	2,128	366	12,552
General.....	5,158	725	576	195	6,654
Tuberculosis.....	196	—	1,552	90	1,838
Mental.....	1,650	—	—	—	1,650
Other.....	2,329	—	—	81	2,410
Personnel	9,395	915	1,791	223	12,324
Salaried doctors.....	133	74	57	23	287
Graduate nurses.....	1,624	156	349	51	2,180
Other personnel.....	7,638	685	1,385	149	9,857
Facilities—					
Laboratory.....	12	7	17	8	44
Radiology.....	11	7	17	4	39
Physiotherapy.....	13	7	7	2	29
Out-patient service.....	10	7	15	8	40
Movement of Patients—³					
In hospital at beginning of year.....	6,801	189	1,801	184	8,975
Admissions.....	51,320	9,999	14,286	2,060	77,665
Discharges.....	48,777	10,048	14,168	2,103	75,096
Deaths.....	2,592	10	218	11	2,831
In hospital at end of year.....	6,752	130	1,701	130	8,713
Patient-days during year.....	2,755,351	124,526	647,585	69,692	3,597,154
Average daily number of patients.....	7,548.9	341.2	1,774.2	190.9	9,855.2
Percentage occupancy.....	80.9	47.1	83.4	52.2	78.5

¹ Data for movement of patients are for the year ended Mar. 31.² Excludes bassinets.³ Includes two hospitals that closed during the year.

Subsection 2.—Canadian Sickness Survey, 1950-51

A nation-wide sickness survey, a co-operative effort of federal and provincial government health departments, was carried out during 1950-51 for the purpose of securing estimates of the incidence and prevalence of illness and accidents of all kinds, the amount of medical, nursing and other health care received, and the volume of family expenditures for the various types of health services. A brief outline of the scope and methods of the survey is given in the 1955 Year Book and some of the results are published in the 1955, 1956 and 1957-58 editions. Details are available in bulletin form.

Subsection 3.—Notifiable Disease and Other Health Statistics*

Health statistics collected nationally—in addition to statistics of hospitals, mental and tuberculosis institutions dealt with at pp. 245-256—cover notifiable diseases, illness among federal Civil Servants, and home nursing services. The first two phases are covered briefly in this Subsection, while reference may be made to the 1957-58 Year Book, pp. 269-270, for information on home nursing and health counselling services, a survey based on the experience of the Victorian Order of Nurses for Canada. Valuable statistical material is also available from some provincial governments regarding certain aspects of their health services.

Notifiable Diseases.—Notifiable diseases are essentially communicable diseases, reportable according to provincial health regulations. The method of collecting such statistics is outlined in the 1955 Year Book at pp. 246-247 and numbers of cases and rates for selected diseases for 1926 to 1956 are given in the 1956 and 1957-58 editions at pp. 267 and 268, respectively.

The progress that has been made toward the successful treatment and eradication of such diseases is indicated by the fact that the proportion of total deaths attributable to notifiable diseases dropped from 9.4 p.c. in 1931 to 1.0 p.c. in 1957 and the death rate from 95.2 per 100,000 population to 8.3. Case rates for some of the major diseases over the same period are shown in the chart on p. 259.

Table 12 shows the number of cases reported for selected notifiable diseases and the rates per 100,000 population, by province, for 1957 with totals for 1956. During the late months of 1957 Canada, along with many other countries, experienced a major epidemic of influenza (*see* p. 258) which accounted for the high incidence of this disease. Poliomyelitis, on the other hand, continued the downward trend in evidence since 1953, reaching a low in 1957 of 273 cases of which 172 were paralytic and 26 resulted in death.

* Prepared in the Public Health Section of the Health and Welfare Division, Dominion Bureau of Statistics.

12.—Reported Cases of Selected Notifiable Diseases and Rates per 100,000 Population, by Province, 1957

Int. List No.	Disease	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Canada ¹	
												1957	1956
NUMBER OF CASES													
087	Chickenpox.....	2	2	1,580	2	6,466	18,050	1,005	2	2	4,872	32,138	36,499
055	Diphtheria.....	12	—	—	—	32	25	29	—	39	5	142	135
045-048	Dysentery ²	3	49	2	51	160	71	60	36	543	136	1,179	611
046	Amoebic.....	—	1	—	1	—	—	—	—	—	4	6	2
045	Bacillary.....	2	48	2	50	160	71	60	36	543	132	1,162	608
082	Encephalomyelitis, infectious.....	—	2	—	—	—	13	8	3	7	1	33	46
480-483	Influenza, epidemic.....	2	5,869	22,541	2	24,463	28,950	985	2	11,938	171,422	255,292	11,177
085	Measles.....	—	2	2,126	2	6,457	12,842	4,056	2	—	11,807	49,612	53,986
057	Meningococcal meningitis and meningococcemia...	132	4	5	49	28	55	21	4	2	35	345	285
089	Mumps.....	2	2	1,925	2	4,122	9,507	590	2	2	6,241	22,386	28,112
080	Poliomyelitis, epidemic ³ ...	1	2	2	17	37	65	9	31	65	43	273	607
080.0	} With paralysis.....	1	—	—	5	27	54	8	20	31	26	172	369
080.1		—	—	2	—	12	10	11	1	7	34	17	95	226
080.2	Without paralysis.....	—	2	—	12	10	11	1	7	34	17	95	226
086	Rubella (German measles)	—	2	414	2	1,023	2,104	214	2	8,652	4,202	16,652	52,028
050, 051	Scarlet fever ⁴	220	463	3,242	20	1,050	2,187	138	160	763	440	8,693	11,672
084	Smallpox.....	—	2	—	—	—	—	—	—	—	—	—	—
001-019	Tuberculosis ⁵	339	37	272	477	3,135	1,815	555	344	565	927	7,979	9,377
001, 002	Pulmonary.....	357	26	230	440	3,024	2	503	283	479	821	6,154	7,545
003-019	Non-pulmonary.....	2	11	42	37	111	2	52	61	86	106	510	494
040, 041	Typhoid and paratyphoid	5	1	1	4	176	48	3	7	18	16	279	455
044	Undulant fever.....	1	1	—	—	82	22	11	1	2	2	120	141
020-039	Veneral diseases.....	424	21	463	231	3,505	2,318	1,321	1,389	2,612	4,112	16,540	16,642
020-029	Syphilis.....	57	2	46	40	1,050	408	54	115	112	304	2,213	2,082
030-035	Gonorrhoea.....	335	19	417	121	2,452	1,910	1,256	1,272	2,499	3,806	14,315	14,547
036-039	Other venereal diseases ⁶ ...	2	—	—	—	4	—	1	2	1	2	14	13
056	Whooping cough.....	3	25	337	5	2,521	2,490	129	107	901	941	7,459	8,513

For footnotes, *see* end of table, p. 253.

12.—Reported Cases of Selected Notifiable Diseases and Rates per 100,000 Population, by Province, 1957—concluded

Int. List No.	Disease	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Canada ¹	
												1957	1956
RATES PER 100,000 ESTIMATED POPULATION													
087	Chickenpox.....	2	2	225.1	2	135.9	321.1	116.9	2	2	327.6	239.1	253.8
055	Diphtheria.....	2.8	—	—	—	0.7	0.4	3.4	—	3.4	0.3	0.9	0.8
045-048	Dysentery ²	0.7	49.5	0.3	9.0	3.4	1.3	7.0	4.1	46.8	9.1	7.1	3.8
	Amoebic.....	—	1.0	—	0.2	—	—	—	—	—	0.3	—	—
046	Bacillary.....	0.7	45.5	0.3	8.8	3.4	1.3	7.0	4.1	46.8	8.5	7.0	3.8
082	Encephalomyelitis, infectious.....	—	2	—	—	—	0.2	0.9	0.3	0.6	0.1	0.2	0.3
430-433	Influenza, epidemic.....	2	5,928.3	3,211.0	2	—	435.1	3,366.3	112.1	2	11,528.5	1,770.5	74.8
085	Measles.....	—	2	302.8	2	135.7	228.4	471.6	2	1,029.1	794.0	330.2	348.1
057	Meningococcal meningitis and meningococcemia...	31.0	4.0	0.7	8.7	0.5	1.0	2.4	0.5	2	2.4	2.2	1.8
089	Mumps.....	2	274.2	2	86.6	169.1	68.6	2	2	419.7	166.6	195.4	—
080	Poliomyelitis, epidemic ³	0.2	2.0	0.3	3.0	0.8	1.2	1.0	3.5	5.6	2.9	1.6	3.8
080.0	With paralysis.....	0.2	—	—	0.9	0.6	1.0	0.9	2.3	2.7	1.7	1.0	2.3
080.1	Rubella (German measles).....	—	2	59.0	2	21.5	37.5	24.9	2	745.9	282.6	110.8	337.7
050, 051	Scarlet fever ⁴	51.6	467.7	461.8	3.5	22.1	38.9	16.0	18.2	65.8	29.6	52.5	72.7
084	Smallpox.....	—	—	—	—	—	—	—	—	—	—	—	—
001-019	Tuberculosis ⁵	79.6	37.4	38.7	84.4	65.9	23.4	64.5	39.1	48.7	62.3	48.2	58.4
001, 002	Pulmonary.....	79.1	26.3	32.3	77.9	63.6	2	58.5	32.2	41.3	55.2	56.2	70.8
003-019	Non-pulmonary.....	0.6	11.1	6.0	6.6	2.3	2	6.0	6.9	7.4	7.1	4.7	4.6
040, 041	Typhoid and paratyphoid.....	1.2	1.0	0.1	0.7	3.7	0.9	0.3	0.8	1.6	1.1	1.7	2.3
044	Undulant fever.....	0.2	1.0	—	—	1.7	0.4	1.3	0.1	2	0.1	0.8	0.9
020-039	Venerable diseases.....	99.5	21.2	66.0	40.9	73.7	41.2	153.6	158.0	225.2	276.5	99.8	103.6
020-029	Syphilis.....	8.7	2.0	6.6	7.1	22.1	7.3	10.9	13.1	9.7	20.4	13.4	13.0
030-035	Gonorrhoea.....	90.4	19.2	59.4	33.8	51.5	34.0	142.6	144.7	215.4	266.0	86.4	90.6
036-039	Other venereal diseases ⁶	0.5	—	—	—	0.1	—	0.1	0.2	0.1	0.1	0.1	0.1
056	Whooping cough.....	0.7	25.3	48.0	0.9	53.0	44.3	15.0	12.2	77.7	63.3	45.0	53.0

¹ Includes Yukon but excludes Northwest Territories.

² Not reportable.

³ Includes cases where type was not specified.

⁴ Includes cases of streptococcal sore throat.

⁵ Includes chancre, granuloma, inguinale and lymphogranuloma venereum.

⁶ Less than 0.05 per 100,000 population.

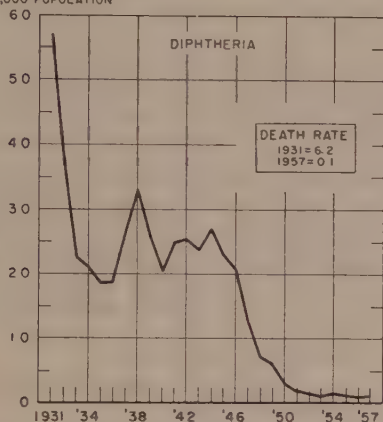
Influenza Epidemic of 1957.—Asian influenza, which first appeared in the north of China early in 1957, spread rapidly to many other areas of the world. In Canada it was clearly evident by early September and reached its maximum incidence during the third week of October. The epidemic proportions of the disease seemed to have reached the central provinces first from the United States or by air from overseas, then developed independently in both coastal areas and spread into the intervening areas.

Surveillance reports to the Epidemiology Division of the Department of National Health and Welfare indicated that an estimated 3,000,000 persons (about 18 p.c. of the total population) in Canada were affected during the epidemic. In schools, colleges and other population concentrations, absenteeism ranged from 10 to 70 p.c. and school closing on a temporary basis was quite common in all provinces. The age data available indicated a generally higher incidence for the "under 20 years" group than for other ages, but the more complete diagnosis and notification of cases among children would have some effect on this analysis.

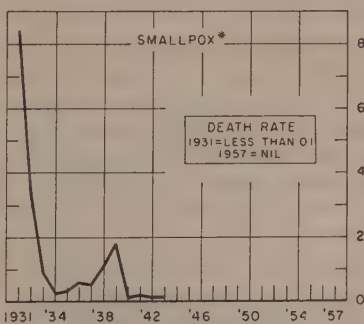
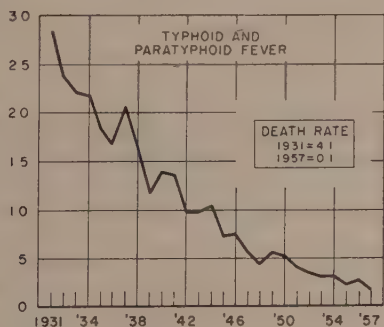
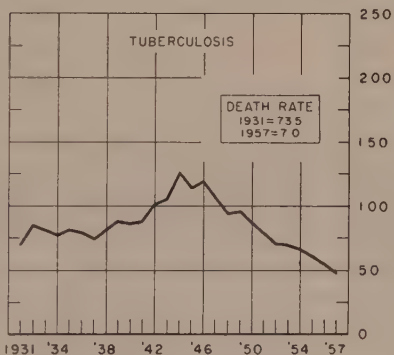
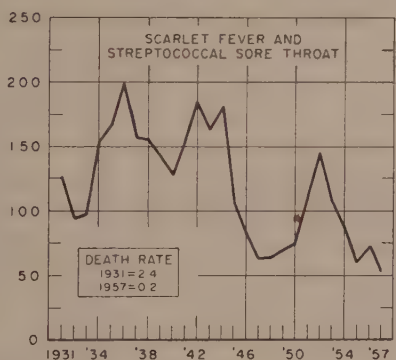
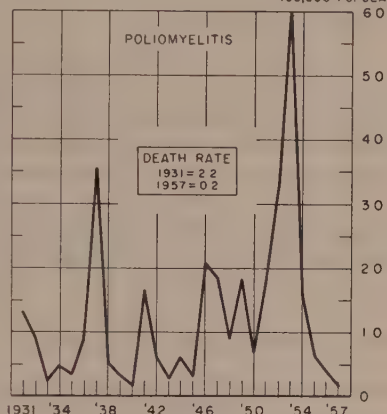
Although exact figures for the absence rate in industry are not available, the results of the monthly labour force survey for the week ended Oct. 19 showed that at some time during that week 257,000 persons lost time from work because of illness, a figure about three times higher than normal. This group of absentees made up 4.6 p.c. of the labour force with jobs; about 161,000 of them were ill for the full week or longer. Estimates for the Civil Service of Canada showed that during the peak period of the epidemic absenteeism was about 5 p.c. of the working force, almost double the normal absenteeism on account of illness.

INCIDENCE OF SELECTED NOTIFIABLE DISEASES 1931-1957

RATE PER
100,000 POPULATION



RATE PER
100,000 POPULATION



*1945 AND 1946, LESS THAN 0.05 AND 1944, 1947-57, NIL

Deaths in Canada from influenza in 1957 numbered 1,762, as compared with 612 from the same cause in 1956, and more than 71 p.c. (1,257) of those deaths occurred during October and November. Following closely the pattern of mortality from influenza of other years, the rate was relatively high in infancy (285 or 16.1 p.c. of all influenza deaths) and in the older ages (692 or 39.2 p.c. in the group "70 years or over").

Industrial Health.—Statistics on industrial health are being developed by the Dominion Bureau of Statistics but so far the only data available relate to the Civil Service of Canada and is confined to measuring ill health in terms of absenteeism on account of illness and injury and to the results of medical examinations.

Illness absenteeism in the Civil Service, under study for many years, now covers a personnel of about 140,000. During the year ended Mar. 31, 1957,* the number of working days lost per employee on account of illness (certified and uncertified) was 7.3; certified sick leave (generally absences of more than three days' duration) averaged 6.9 per employee; average length of certified illness was 16.1 days; and average number of employees absent on certified leave from work per 100 employees was 1.9. Findings show that the average duration of illness increases with age and that it is higher for males than for females.

13.—Rates per 1,000 Employees of Illnesses and Days of Illness for Federal Civil Service Personnel, by Cause, Year Ended Mar. 31, 1957

(Certified sick leave only)

Int. List No.	Cause	Rate per 1,000 Employees	
		Illnesses	Days of Illness
		No.	No.
001-138	Infective and parasitic diseases.....	15.1	474.5
140-239	Neoplasms.....	7.5	290.5
240-289	Allergic, endocrine system, metabolic, and nutritional diseases.....	10.4	184.1
290-299	Diseases of the blood and blood-forming organs.....	2.1	55.9
300-326	Mental, psychoneurotic, and personality disorders.....	14.5	421.9
330-398	Diseases of the nervous system and sense organs.....	18.1	305.8
400-468	Diseases of the circulatory system.....	25.6	853.0
470-527	Diseases of the respiratory system.....	164.2	1,298.3
530-587	Diseases of the digestive system.....	73.0	1,062.0
590-637	Diseases of the genito-urinary system.....	22.0	363.0
640-689	Deliveries and complications of pregnancy, childbirth, and the puerperium.....	1.9	21.7
690-716	Diseases of the skin and cellular tissue.....	18.0	221.9
720-749	Diseases of the bones and organs of movement.....	29.6	491.9
750-759	Congenital malformations.....	0.5	15.7
780-795	Symptoms, senility, and ill-defined conditions.....	23.3	294.6
N800-N999	Accidents, poisonings, and violence.....	31.6	518.3
	Totals, All Illnesses.....	457.3	6,873.0

Similar studies in private industry have been encouraged by the Ontario Department of Health and reports have been issued from time to time by the Department's Divisions of Industrial Hygiene and Medical Statistics. A report covering the combined experience of 15 companies with a total of about 8,000 employees for the year 1957 shows the following results:—

Item	Male	Female
Average number of absences per 100 persons.....	99	248
Average number of calendar days lost per person.....	6.9	11.6
Average number of calendar days lost per absence.....	7.0	4.7

* Used in preference to the subsequent year which was unusual as a result of the influenza epidemic (see p. 258).

PART II.—PUBLIC WELFARE AND SOCIAL SECURITY

Responsibility for social welfare is shared by all levels of government. Costly income maintenance measures such as old age security and family allowances, or programs such as unemployment insurance and the National Employment Service where nation-wide co-ordination is required are administered federally. Substantial federal aid is given to the provinces in meeting the costs of social assistance. The Federal Government also provides services for special groups such as Indians, Eskimos and immigrants.

The Department of National Health and Welfare is the agency generally responsible for federal welfare matters; the Departments of Veterans Affairs, Citizenship and Immigration, and Northern Affairs and National Resources also operate important programs. The Unemployment Insurance Commission is responsible for the operation of unemployment insurance and the National Employment Service.

Administration of welfare services is primarily a responsibility of the province but the provision of services is often assumed by local authorities, generally with financial aid from the province concerned.

Section 1.—Federal Government Programs

Subsection 1.—Family Allowances

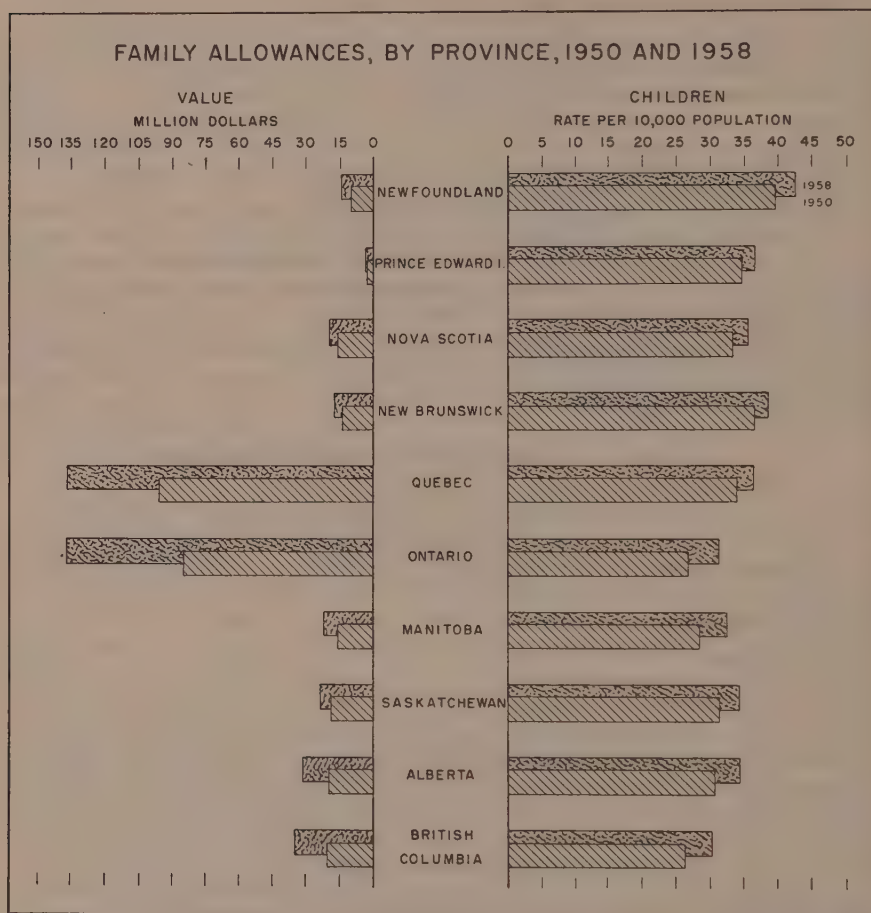
The Family Allowances Act of 1944 is designed to assist in providing equal opportunity for all Canadian children. The allowances do not involve a 'means test' and are paid entirely from the federal Consolidated Revenue Fund. They do not constitute taxable income but there is a smaller income tax exemption for children eligible for allowances.

Allowances are payable in respect of every child under the age of 16 years who was born in Canada, or who has been a resident of the country for one year, or whose father or mother was domiciled in Canada for three years immediately prior to the birth of the child. Payment is made each month, normally to the mother, although any person who substantially maintains the child may be paid the allowance on his behalf. Allowances are paid at the monthly rate of \$6 for each child under ten years and \$8 for each child ten or over but under 16 years. The allowances are paid by cheque, except for some Eskimo and Indian children in remote areas for whom payment is made largely in kind because of lack of exchange facilities and the desirability for education in the use of nutritive foods.

If the allowances are not spent for the purposes outlined in the Act payment may be discontinued or made to some other person or agency on behalf of the child. Allowances are not payable for any child who fails to comply with provincial school regulations or on behalf of a girl who is married and under 16 years of age.

The program is administered by the Department of National Health and Welfare through regional offices located in each provincial capital. A welfare section in each regional office deals with welfare questions arising from administration of the allowances. Issuing of the cheques is the responsibility of the treasury division of each regional office which reports to the Chief Treasury Officer of the Department of Finance attached to the Department of National Health and Welfare. The Regional Director for the Yukon and Northwest Territories is located in Ottawa.

Through the Department of Citizenship and Immigration the Federal Government pays family assistance at the rate of \$5 per month for each child under 16 years of age supported by an immigrant who has landed for permanent residence in Canada, or by a Canadian returning to Canada to reside permanently. This allowance, which is paid quarterly and for a maximum period of one year, is not payable to a child receiving family allowances.



1.—Family Allowances Statistics, by Province, Years Ended Mar. 31, 1956-58

Province and Year	Families Receiving Allowance in March	Children for Whom Allowance Paid in March	Average Number of Children per Family in March	Average Allowance ¹		Net Total Allowances Paid during Fiscal Year
				Per Family	Per Child	
	No.	No.	No.	\$	\$	\$
Newfoundland.....1956	58,223	175,474	3.01	18.07	5.99	12,414,789
1957	59,572	181,237	3.04	18.31	6.02	12,881,415
1958	60,961	187,035	3.07	20.40	6.65	14,131,153
Prince Edward Island...1956	13,151	36,144	2.75	16.67	6.07	2,621,722
1957	13,067	36,173	2.77	16.86	6.09	2,640,585
1958	13,240	36,839	2.78	18.61	6.69	2,824,310
Nova Scotia.....1956	99,071	244,551	2.47	14.97	6.07	17,596,684
1957	99,957	248,827	2.49	15.13	6.08	17,973,392
1958	101,509	253,713	2.50	16.71	6.68	19,400,493

¹ Based on gross payment for March.

1.—Family Allowances Statistics, by Province, Years Ended Mar. 31, 1956-58—concluded

Province or Territory and Year	Families Receiving Allowance in March	Children for Whom Allowance Paid in March	Average Number of Children per Family in March	Average Allowance ¹		Net Total Allowances Paid during Fiscal Year
				Per Family	Per Child	
	No.	No.	No.	\$	\$	\$
New Brunswick.....1956	77,079	214,966	2.79	16.88	6.05	15,451,544
1957	77,833	218,703	2.81	17.05	6.07	15,779,360
1958	79,237	224,047	2.83	18.89	6.68	17,074,970
Quebec.....1956	623,961	1,675,840	2.68	16.36	6.09	120,389,838
1957	642,573	1,729,386	2.69	16.39	6.09	124,368,344
1958	664,852	1,786,800	2.69	18.02	6.70	136,080,634
Ontario.....1956	773,535	1,657,561	2.14	12.87	6.00	116,604,314
1957	800,279	1,734,813	2.17	13.05	6.02	122,539,123
1958	833,495	1,825,274	2.19	14.59	6.66	136,706,314
Manitoba.....1956	122,018	272,916	2.24	13.46	6.02	19,418,713
1957	122,386	276,912	2.26	13.65	6.03	19,888,717
1958	124,257	283,863	2.28	15.22	6.66	21,520,778
Saskatchewan.....1956	127,175	296,027	2.33	14.10	6.06	21,401,114
1957	126,271	298,085	2.36	14.31	6.06	21,644,971
1958	127,904	306,045	2.39	15.89	6.64	23,241,829
Alberta.....1956	167,705	380,095	2.27	13.57	5.99	26,752,793
1957	172,533	395,234	2.29	13.76	6.00	27,953,311
1958	179,237	414,550	2.31	15.36	6.64	31,029,720
British Columbia.....1956	196,955	412,819	2.10	12.67	6.04	29,097,077
1957	207,626	440,749	2.12	12.86	6.06	31,029,472
1958	217,009	466,169	2.15	14.35	6.68	34,969,036
Yukon and Northwest Territories.....1956	4,745	11,043	2.33	14.04	6.03	786,437
1957	4,794	11,317	2.36	14.00	5.93	819,150
1958	5,033	12,045	2.39	15.87	6.63	907,321
Canada.....1956	2,263,618	5,377,436	2.37	14.35	6.04	382,535,026
1957	2,326,891	5,571,436	2.39	14.49	6.05	397,517,840
1958	2,406,734	5,796,389	2.41	16.08	6.65	437,886,560

¹ Based on gross payment for March.

Subsection 2.—Old Age Security

The Old Age Security Act of 1952, as amended November 1957, provides a universal pension of \$55 a month, payable by the Federal Government to all persons aged 70 or over, subject to a residence qualification. To qualify for pension a person must have resided in Canada for ten years immediately preceding its commencement or, if absent during that period, must have been actually present in Canada prior to it for double any period of absence and must have resided in Canada at least one year immediately preceding commencement of pension. The pension is suspended when a pensioner leaves Canada but on his return may be resumed and, if absence has not exceeded six months, may be paid retroactively for as many as six months of absence in any calendar year.

The pension is financed on a pay-as-you-go method through a 2-p.c. sales tax, a 2-p.c. tax on taxable corporation income and, subject to a limit of \$60 a year, a 2-p.c. tax on taxable personal income, which are paid into the Old Age Security Fund. The pension is paid from the Consolidated Revenue Fund and charged to the Old Age Security Fund. The program is administered by the Department of National Health and Welfare, through regional offices located in each provincial capital.

Persons in receipt of old age assistance (*see* p. 268) who reach age 70 are automatically transferred to old age security. Others make application to the regional office.

British Columbia, Alberta and Saskatchewan make supplementary payments to recipients of old age security who qualify under a means and residence test. In British Columbia the allowance may not exceed \$20 per month, in Alberta \$15 per month, in Saskatchewan it is a minimum of \$2.50 per month rising to a maximum of \$10 per month. In Ontario, the provincial government shares to the extent of 80 p.c. in the first \$20 per month of supplement paid by a municipality to a needy recipient of old age security. In Manitoba, the province may reimburse a municipality for 80 p.c. of the supplementary assistance it pays to needy recipients of old age security. In some provinces and in Yukon Territory, recipients of the pension who are in special need may be eligible for relief.

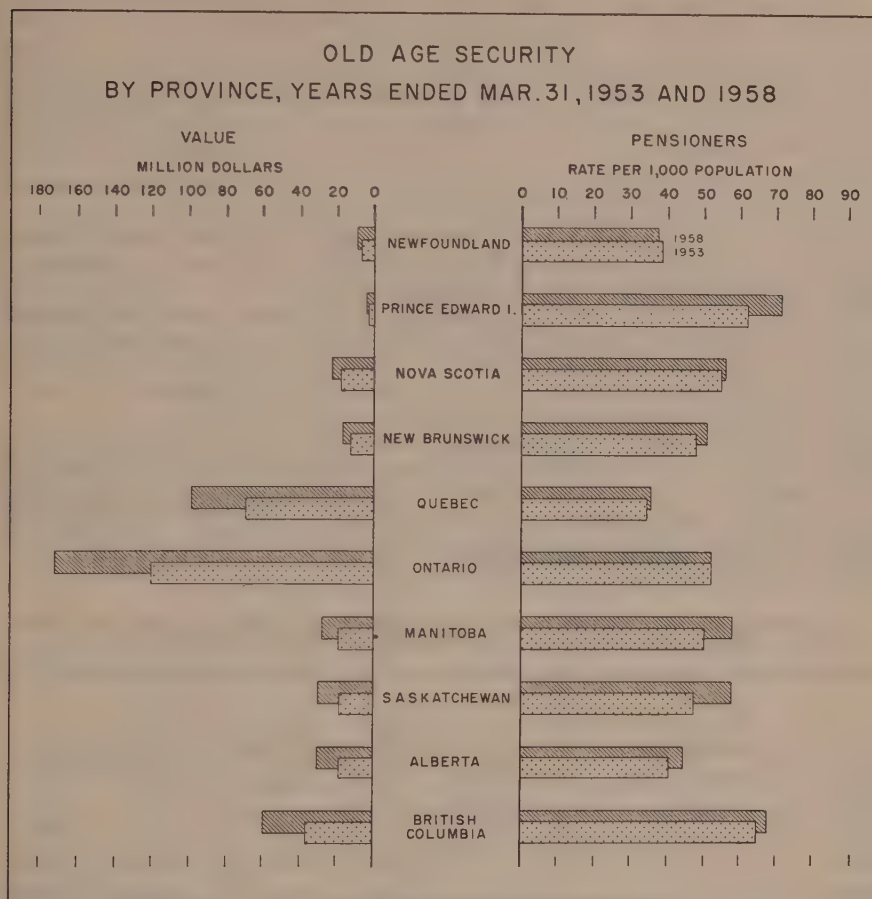
2.—Operations of the Old Age Security Fund, Years Ended Mar. 31, 1955-58

Item	Year Ended Mar. 31—			
	1955	1956	1957	1958
	\$	\$	\$	\$
Revenue	353,205,333	366,218,474	379,111,374	473,859,104
Individual income tax.....	100,900,000	102,500,000	124,999,000	135,001,000
Corporation income tax.....	46,000,000	53,328,000	67,336,000	60,664,000
Sales tax.....	143,053,678	160,377,617	179,270,141	175,792,442
Grant from Consolidated Revenue Fund.....	—	—	6,000,000	—
Loan from Consolidated Revenue Fund.....	63,251,655 ¹	50,012,857 ¹	1,506,233	102,401,662
Expenditure (Benefit Payments)	353,205,333	366,218,474	379,111,374	473,859,104

¹ Loans from Consolidated Revenue were written off by grants from the Consolidated Revenue Fund in following fiscal years.

3.—Old Age Security Statistics, by Province, Years Ended Mar. 31, 1956-58

Province and Year	Pensioners in March	Pensions Paid during Fiscal Year (net)	Province or Territory and Year	Pensioners in March	Pensions Paid during Fiscal Year (net)
	No.	\$		No.	\$
Newfoundland.....1956	15,973	7,599,405	Manitoba.....1956	46,396	21,953,425
1957	16,248	7,738,205	1957	47,908	22,842,472
1958	16,557	9,490,737	1958	50,079	28,562,399
Prince Edward Island..1956	6,884	3,313,980	Saskatchewan.....1956	47,101	22,331,244
1957	6,993	3,371,370	1957	48,984	23,334,799
1958	7,100	4,139,668	1958	51,300	29,420,360
Nova Scotia.....1956	38,212	18,411,345	Alberta.....1956	48,163	22,681,995
1957	38,860	18,706,153	1957	50,524	23,942,472
1958	39,694	23,008,418	1958	53,319	30,443,217
New Brunswick.....1956	27,513	13,246,139	British Columbia....1956	94,611	44,657,286
1957	28,170	13,528,005	1957	99,320	46,923,834
1958	28,956	16,747,674	1958	104,297	59,408,009
Quebec.....1956	163,173	77,110,979	Yukon and North-west Territories. 1956	556	268,440
1957	168,407	79,650,588	1957	579	280,680
1958	174,476	99,490,164	1958	599	344,305
Ontario.....1956	283,171	134,644,236	Canada.....1956	771,753	366,218,474
1957	291,493	138,792,796	1957	797,496	379,111,374
1958	301,183	172,804,152	1958	827,560	473,859,103



Subsection 3.—Government Annuities*

Under the Government Annuities Act (R.S.C. 1952, c. 132), passed in 1908, the Federal Government carries on a service to assist Canadians to make provision for old age. The Act is administered by the Minister of Labour.

A Canadian Government annuity is a fixed yearly income purchased from and paid by the Government of Canada. The annuity is payable in monthly instalments for life, or for life and guaranteed for a period of years. The minimum annuity is \$10 and the maximum \$1,200 a year or the actuarial equivalent if the annuity is to reduce by the amount of payments under the Old Age Security Act. Annuity contracts may be deferred or immediate. Deferred annuities are purchased by periodic or single premiums. Immediate annuity contracts provide immediate income. Annuities may be arranged to reduce by \$55 a month at age 70 to fit in with payments under the Old Age Security Act.

* Revised in the Government Annuities Branch, Department of Labour, Ottawa.

The property and interest of the annuitant are neither transferable nor attachable. In the event of the death of the annuitant before a deferred annuity vests, all money paid is refunded with interest. Provision is made in the Act for group annuity contracts whereby employers may contract for the purchase of annuities on behalf of their employees, or associations on behalf of their members, the purchase money being derived partly from wages and partly from employer contributions or entirely from employer contributions. Group annuity plans now in effect cover a variety of industries and many municipal corporations throughout Canada. Annuities arising from individual contracts may be taxable in either of two ways: (1) if registered under Sect. 79B of the Income Tax Act for tax exemption on premiums, the annuity is fully taxable, or (2) if not registered the annuity is taxable on the interest portion only. Annuities arising from approved pension plans are fully taxable but the employee and the employer are entitled to tax exemption year by year on their annual contributions to the pension plan.

From Sept. 1, 1908, the date of the inception of the system, to Mar. 31, 1958, the total number of annuity contracts and certificates issued, excluding replacements, was 452,053. On the latter date 76,467 annuities were being paid amounting to \$39,386,670 annually and 327,390 deferred annuities were being purchased. The net total amount of purchase money received up to Mar. 31, 1958, was \$1,102,778,000.

Up to Mar. 31, 1958, 1,133 corporations, institutions and associations, as compared with 1,061 up to Mar. 31, 1957, had entered into agreements with the Government to purchase annuities. Under these arrangements 192,820 employees or members were holding certificates for purchase of deferred annuities as compared with 179,434 one year earlier. The number of certificates issued under groups in the fiscal year 1957-58 was 11,236 as compared with 12,476 for 1956-57.

4.—Individual Annuity Contracts and Certificates Issued and Net Receipts, Years Ended Mar. 31, 1954-58, with Cumulative Totals for 1908-58

Year Ended Mar. 31—	Individual Contracts Issued	Group Certificates Issued	Total Contracts and Certificates Issued	Net Receipts
	No.	No.	No.	\$'000
1908-53 ¹	151,163	199,061	350,224	773,286
1954.....	5,305	13,161	18,466	64,380
1955.....	6,242	18,300	24,542	68,594
1956.....	6,799	15,672	22,471	69,945
1957.....	5,937	12,476	18,413	64,421
1958.....	6,701	11,236	17,937	62,149
Totals, 1908-58.....	182,147	269,906	452,053	1,102,778

¹ Sept. 1, 1908 to Mar. 31, 1953.

5.—Government Annuity Fund Statements, Years Ended Mar. 31, 1954-58

Item	1954	1955	1956	1957	1958
	\$	\$	\$	\$	\$
Assets					
Fund at beginning of fiscal year.....	736,540,927	798,454,014	864,543,038	930,221,101	989,285,939
Receipts during the year, less payments.....	61,913,087	66,089,024	65,678,063	59,064,838	58,355,287
Fund at end of fiscal year.....	798,454,014	864,543,038	930,221,101	989,285,939	1,047,641,226

5.—Government Annuity Fund Statements, Years Ended Mar. 31, 1954-58—concluded

Item	1954	1955	1956	1957	1958
	\$	\$	\$	\$	\$
Liabilities					
Value of outstanding contracts.....	798,454,014	864,543,038	930,221,101	989,285,939	1,047,641,226
Receipts					
Immediate annuities.....	5,620,132	8,086,323	9,171,329	5,943,037	4,900,533
Deferred annuities.....	59,580,358	61,956,789	61,405,964	58,982,047	57,779,568
Interest on fund.....	29,306,356	31,638,652	34,064,769	36,322,665	38,448,256
Amount transferred to maintain reserve.....	98,911	371,521	—	—	1,184,467
Totals, Receipts.....	94,605,757	102,053,285	104,642,062	101,247,749	102,312,824
Payments					
Payments under vested annuity contracts.....	29,749,159	31,943,115	34,498,070	36,963,652	39,056,390
Return of premiums with interest.....	2,123,349	2,572,284	3,033,205	3,252,738	3,664,920
Return of premiums without interest.....	820,162	1,448,862	1,317,682	1,177,408	1,225,048
Unclaimed annuities transferred to Consolidated Revenue Fund.....	—	—	—	29,398	11,179
Surplus transferred to Consolidated Revenue Fund.....	—	—	115,042	759,715	—
Totals, Payments.....	32,692,670	35,964,261	38,963,999	42,182,911	43,957,537

6.—Numbers and Values of Annuity Contracts, as at Mar. 31, 1957 and 1958

Classification *	1957			1958		
	Contracts	Amount of Annuities	Value at Mar. 31 of Contracts in Force	Contracts	Amount of Annuities	Value at Mar. 31 of Contracts in Force
	No.	\$	\$	No.	\$	\$
Vested ordinary.....	33,540	13,653,854	119,927,248	35,805	14,842,997	126,822,011
Vested guaranteed.....	32,854	18,263,884	201,939,906	32,189	18,164,843	202,779,349
Vested last survivor.....	4,203	2,114,078	27,279,201	4,125	2,104,453	26,929,814
Vested reducing at age 70....	3,400	3,240,716	25,984,612	4,348	4,274,377	32,860,537
Deferred.....	306,338	¹	614,154,972	327,390	¹	658,249,515
Totals.....	380,335	37,272,532	989,285,939	403,857	39,386,670	1,047,641,226

¹ Undetermined.

Subsection 4.—Other Federal Government Programs

Unemployment Insurance and National Employment Service.—In 1940, by an amendment to the British North America Act, the Federal Government was given jurisdiction in the field of unemployment insurance and the Unemployment Insurance Act was passed, establishing a national system of unemployment insurance which is outlined in Chapter XVII.

The National Employment Service is operated in conjunction with the unemployment insurance scheme. It is administered through local employment and claims offices and supervised by the Department of Labour. Statistics of positions offered and placements made are given in Chapter XVII.

Prairie Farm Assistance.—The Prairie Farm Assistance Act is administered by the Department of Agriculture; a description of the legislation is given in Chapter IX.

Welfare Services for Indians and Eskimos.—The welfare of Indians and Eskimos is administered by the Department of Citizenship and Immigration and the Department of Northern Affairs and National Resources, respectively; this field is covered in the Population Chapter, pp. 168-170.

Section 2.—Federal-Provincial Programs

Subsection 1.—Old Age Assistance

The Old Age Assistance Act of 1952, as amended November 1957, provides for federal reimbursement to the provinces for assistance to persons aged 65 or over who are in need and who have resided in Canada for at least ten years or who, if absent from Canada during this period, have been present in Canada prior to the commencement of the ten-year period for double any period of absence. On reaching age 70 a pensioner is transferred to Old Age Security. The federal contribution may not exceed 50 p.c. of \$55 per month or of the assistance paid, whichever is less. The province administers the program and, within the limits of the federal Act, may fix the amount of assistance payable, the maximum income allowed and other conditions of eligibility. All provinces and territories pay \$55 per month.

For an unmarried person, total income allowed, including assistance, may not exceed \$960 a year. For a married couple it may not exceed \$1,620 a year or, when the spouse is blind within the meaning of the Blind Persons Act, \$1,980 a year. Assistance is not paid to a person receiving an allowance under the Blind Persons or War Veterans Allowance Acts.

British Columbia, Alberta and Yukon Territory make supplementary payments to recipients of old age assistance who qualify under a means and residence test. In British Columbia the allowance may not exceed \$20 per month, in Alberta \$15 per month, and in the Yukon \$10 per month. In Ontario, the provincial government shares to the extent of 80 p.c. in the first \$20 per month of the supplement paid by a municipality to a needy recipient of old age assistance. In Manitoba, the province is empowered to reimburse a municipality for 80 p.c. of the supplementary assistance it pays to recipients of old age assistance. In some provinces and in the Yukon, recipients of old age assistance who are in special need may be eligible for relief.

7.—Old Age Assistance Statistics, by Province, Years Ended Mar. 31, 1956-58

Province and Year	Recipients in Month of March	Average Amount of Monthly Assistance	P.C. of Recipients to Population Age 65-69	Federal Government Contribution during Year
		\$		\$
Newfoundland.....1956	4,848	29.42	52.13	877,213
.....1957	4,893	38.08 ¹	52.61	1,015,306
.....1958	5,119	53.63 ²	57.52	1,298,770
Prince Edward Island.....1956	600	27.69	18.18	99,660
.....1957	580	28.04	17.58	98,143
.....1958	659	45.55 ²	19.97	142,258
Nova Scotia.....1956	5,081	33.73	25.92	1,046,927
.....1957	4,950	33.95	25.26	1,020,529
.....1958	5,219	50.15 ²	26.10	1,318,055
New Brunswick.....1956	5,891	36.86	39.54	1,303,189
.....1957	5,624	36.92	37.74	1,271,433
.....1958	5,724	52.46 ²	37.17	1,559,905

For footnotes, see end of table.

7.—Old Age Assistance Statistics, by Province, Years Ended Mar. 31, 1956-58—concluded

Province or Territory and Year	Recipients in Month of March	Average Amount of Monthly Assistance	P.C. of Recipients to Population Age 65-69	Federal Government Contribution during Year
	No.	\$		\$
Quebec.....1956	32,227	37.51	31.17	7,357,373
.....1957	31,031	37.47	30.01	7,107,138
.....1958	32,318	52.45 ²	30.84	8,702,893
Ontario.....1956	21,731	36.90	13.19	4,918,978
.....1957	20,744	36.93	12.59	4,659,319
.....1958	21,077	51.76 ²	12.56	5,650,281
Manitoba.....1956	4,652	37.84	16.50	1,111,604
.....1957	4,560	37.88	16.17	1,058,780
.....1958	4,474	53.37 ²	15.48	1,297,115
Saskatchewan.....1956	4,925	37.05	17.22	1,150,402
.....1957	4,963	37.11	17.35	1,154,375
.....1958	5,129	52.52 ²	17.45	1,435,188
Alberta.....1956	5,521	36.16	18.28	1,240,452
.....1957	5,400	36.14	17.88	1,211,188
.....1958	5,715	51.33 ²	18.26	1,538,751
British Columbia.....1956	7,441	37.68	14.53	1,788,308
.....1957	7,029	37.67	13.73	1,665,347
.....1958	6,906	52.91 ²	12.86	1,979,058
Yukon Territory.....1956	20	40.00	10.00	3,080
.....1957	31	40.00	15.50	6,640
.....1958	41	46.00 ³	21.47	9,726
Northwest Territories.....1956	86	37.93	43.00	21,000
.....1957	102	37.96	51.00	22,597
.....1958	103	53.99 ²	48.58	29,385
Canada.....1956	93,023	36.56	20.49	20,918,186
.....1957	89,907	37.03	19.81	20,290,795
.....1958	92,484	52.19	19.94	24,961,383

¹ During fiscal year maximum assistance raised from \$30 to \$40 per month.
² During fiscal year maximum assistance raised from \$40 to \$55 a month.

³ During fiscal year monthly maximum raised from \$40 to \$46, then to \$55 in May 1958, retroactive to Nov. 1, 1957.

Subsection 2.—Allowances for Blind Persons

The Blind Persons Act of 1952, as amended November 1957, provides for federal reimbursement to the provinces for allowances to blind persons aged 18 or over who are in need and who have resided in Canada for at least ten years. The federal contribution may not exceed 75 p.c. of \$55 per month or of the allowance paid, whichever is less. The province administers the program and, within the limits of the federal Act, may fix the amount of allowance payable and the maximum income allowed. All provinces pay \$55 per month.

To qualify for an allowance a person must meet the required definition of blindness and have resided in Canada for ten years immediately preceding commencement of allowance or, if absent from Canada during this period, must have been present in Canada prior to its commencement for a period equal to double any period of absence.

For an unmarried person, total income including the allowance may not exceed \$1,200 a year; for a person with no spouse but with one or more dependent children, \$1,680; for a married couple, \$1,980. When the spouse is also blind, income of the couple

may not exceed \$2,100. Allowances are not payable to a person receiving assistance under the Old Age Assistance Act, an allowance under the War Veterans Allowance Act, a pension under the Old Age Security Act or a pension for blindness under the Pensions Act.

British Columbia, Alberta, Saskatchewan and Yukon Territory make supplementary payments to recipients of blindness allowances who qualify under income and residence tests. In British Columbia, a flat rate allowance of \$20 per month is payable, in Alberta the supplement may not exceed \$15 per month and in the Yukon \$10 per month. In Saskatchewan a minimum of \$2.50 per month is payable, rising to a maximum of \$10 per month. In Ontario the government shares to the extent of 80 p.c. in the first \$20 per month paid by a municipality to a needy recipient. In Manitoba, the province is empowered to reimburse a municipality for 80 p.c. of the supplementary assistance it pays to recipients of allowances for blind persons. In some provinces and in the Yukon, recipients in special need may also be eligible for relief.

8.—Statistics of Allowances for the Blind, by Province, Years Ended Mar. 31, 1956-58

Province or Territory and Year	Recipients in Month of March	Average Amount of Monthly Allowance	P.C. of Recipients to Population Age 20-69	Federal Government Contribution during Year
	No.	\$		\$
Newfoundland.....1956	353	39.65	0.178	126,038
.....1957	370	39.47	0.186	132,559
.....1958	376	54.45 ¹	0.190	152,688
Prince Edward Island.....1956	96	37.52	0.181	32,279
.....1957	90	37.38	0.170	31,267
.....1958	96	53.13 ¹	0.198	37,568
Nova Scotia.....1956	726	39.55	0.198	254,604
.....1957	714	39.25	0.194	258,064
.....1958	745	53.92 ¹	0.204	312,969
New Brunswick.....1956	717	39.50	0.250	258,432
.....1957	719	39.53	0.251	258,340
.....1958	715	53.94 ¹	0.258	310,481
Quebec.....1956	2,905	39.44	0.118	1,036,243
.....1957	2,918	39.32	0.118	1,046,209
.....1958	2,956	54.41 ¹	0.117	1,264,975
Ontario.....1956	1,719	39.35	0.056	609,974
.....1957	1,713	39.09	0.056	613,014
.....1958	1,720	53.73 ¹	0.053	735,344
Manitoba.....1956	411	39.60	0.085	145,547
.....1957	402	39.60	0.083	147,725
.....1958	392	54.33 ¹	0.082	170,031
Saskatchewan.....1956	389	38.84	0.079	135,219
.....1957	399	38.80	0.081	141,797
.....1958	412	53.32 ¹	0.088	176,095
Alberta.....1956	415	38.54	0.070	145,707
.....1957	418	39.25	0.070	151,071
.....1958	451	53.63 ¹	0.071	188,604
British Columbia.....1956	475	39.52	0.062	166,772
.....1957	482	39.17	0.062	169,387
.....1958	505	53.67 ¹	0.059	213,809
Yukon Territory.....1956	6	40.00	0.105	1,350
.....1957	6	40.00	0.105	2,160
.....1958	5	46.00 ²	0.088	2,300

For footnotes, see end of table.

8.—Statistics of Allowances for the Blind, by Province, Years Ended Mar. 31, 1956-58—
concluded

Territory and Year	Recipients in Month of March	Average Amount of Monthly Allowance	P.C. of Recipients to Population Age 20-69	Federal Government Contribution during Year
	No.	\$		\$
Northwest Territories.....1956	18	40.00	0.212	6,330
1957	25	38.60	0.294	7,447
1958	27	51.85 ¹	0.260	10,861
Canada.....1956	8,230	39.36	0.093	2,918,495
1957	8,256	39.24	0.094	2,959,040
1958	8,400	54.02	0.092	3,575,724

¹ During fiscal year maximum raised from \$40 to \$55 a month. ² During fiscal year maximum raised from \$40 to \$46 a month then to \$55 a month in May 1958, retroactive to Nov. 1, 1957.

Subsection 3.—Allowances for Disabled Persons

The Disabled Persons Act of 1955, as amended November 1957, provides for federal reimbursement to the provinces for allowances paid to permanently and totally disabled persons aged 18 or over who are in need and who have resided in Canada for at least ten years immediately preceding commencement of allowance or, if absent from Canada during this period, have been present in Canada prior to its commencement for a period equal to double any period of absence. To qualify for an allowance a person must meet the definition of permanent and total disability set out in the Regulations to the Act. The federal contribution may not exceed 50 p.c. of \$55 per month or of the allowance paid, whichever is less. All provinces and territories pay \$55. The province administers the program and, within the limits of the federal Act, may fix the amount of allowance payable, the maximum income allowed and other conditions of eligibility.

For an unmarried person, total income including the allowance may not exceed \$960 a year. For a married couple the limit is \$1,620 a year except that if the spouse is blind within the meaning of the Blind Persons Act, income of the couple may not exceed \$1,980 a year. Allowances are not paid to a person receiving an allowance under the Blind Persons Act or the War Veterans Allowance Act, assistance under the Old Age Assistance Act, a pension under the Old Age Security Act, or the mothers' allowance.

The definition of permanent and total disability employed under the Act requires that a person must be suffering from a major physiological, anatomical or psychological impairment, verified by objective medical findings. The impairment must be one that is likely to continue indefinitely without substantial improvement and that will severely limit activities of normal living.

The allowance is not payable to a patient in a mental institution or tuberculosis sanatorium. A recipient who is resident in a nursing home, an infirmary, a home for the aged, an institution for the care of incurables or a private, charitable or public institution is eligible for the allowance only if the major part of the cost of his accommodation is being paid by himself or his family. When a recipient is required to enter a public or private hospital the allowance may be paid for no more than two months of hospitalization in a calendar year, excluding months of admission and release, but for the period that a recipient is in hospital for therapeutic treatment for his disability or rehabilitation, as approved by the provincial authority, the allowance may continue to be paid. The provincial authority must suspend the payment of the allowance when in its opinion the recipient unreasonably neglects or refuses to comply with or to avail himself of training, rehabilitation or treatment facilities provided by or available in the province.

In the first two years of the program, over half the persons granted an allowance had primary disabilities which were in two medical classes: mental, psychoneurotic and personality disorders, or diseases of the nervous system and sense organs. However, this proportion fell to 41 p.c. in the fiscal year 1957-58. Mental deficiency, the most frequently occurring primary disability, which accounted for over 25 p.c. of all applicants granted an allowance in the first two years of the program, declined to about one-sixth in 1957-58 while there was a marked increase in the relative importance of diseases of the circulatory system.

British Columbia makes supplementary payments of \$20 per month to recipients of disability allowances who qualify under a residence test. In Ontario, the government shares to the extent of 80 p.c. in the first \$20 per month paid by a municipality to a needy recipient. In Manitoba, the province is empowered to reimburse a municipality for 80 p.c. of the supplementary assistance it pays to needy recipients of disability allowances. In some provinces and in Yukon Territory recipients in special need may also be eligible for relief.

**9.—Statistics of Allowances for Disabled Persons, by Province, Years Ended
Mar. 31, 1956-58**

Province or Territory and Year	Recipients in Month of March	Average Amount of Monthly Allowance	P.C. of Recipients to Population Age 20-69	Federal Government Contribution during Year
	No.	\$		\$
Newfoundland.....1956	606	39.08	0.305	119,326
.....1957	720	39.44	0.363	163,167
.....1958	822	54.78 ¹	0.415	205,845
Prince Edward Island.....1956	292	32.84	0.552	56,703 ²
.....1957	345	33.94	0.652	65,680
.....1958	460	52.12 ¹	0.950	113,222
Nova Scotia.....1956	1,172	34.86	0.319	254,326
.....1957	1,465	35.69	0.399	290,339
.....1958	1,790	52.56 ¹	0.491	456,948
New Brunswick.....1956	947	39.13	0.330	218,644
.....1957	1,262	39.43	0.440	281,859
.....1958	1,474	54.62 ¹	0.531	404,650
Quebec.....1956	12,128	38.81	0.491	2,561,941 ²
.....1957	15,856	38.97	0.642	3,593,395
.....1958	22,929	53.75 ¹	0.905	6,048,901
Ontario.....1956	7,501	39.24	0.244	1,712,426
.....1957	8,065	39.27	0.262	1,853,110
.....1958	9,412	54.24 ¹	0.289	2,523,956
Manitoba.....1956	738	39.00	0.153	172,350
.....1957	819	39.23	0.169	192,867
.....1958	1,028	54.36 ¹	0.215	273,555
Saskatchewan.....1956	788	38.20	0.160	162,884
.....1957	988	38.68	0.200	221,966
.....1958	1,146	54.20 ¹	0.244	317,011
Alberta.....1956	1,150	38.01	0.193	290,947 ²
.....1957	1,245	38.17	0.209	276,593
.....1958	1,492	53.59 ¹	0.235	396,826
British Columbia.....1956	705	39.00	0.091	115,521 ²
.....1957	1,067	39.01	0.138	227,926
.....1958	1,281	54.18 ¹	0.150	349,100
Northwest Territories.....1956	...	...	...	...
.....1957	3	40.00	0.035	440
.....1958	6	55.00 ¹	0.058	1,651
Canada¹.....1956	26,027	38.66	0.296	5,665,068
.....1957	31,835	38.84	0.361	7,167,352
.....1958	41,840	53.88	0.459	11,091,664

¹ During fiscal year maximum payment increased from \$40 to \$55 a month.
retroactive to Jan. 1, 1955, when program became effective.

² Includes certain amounts
³ Excluding Yukon Territory.

Subsection 4.—Unemployment Assistance

Under the Unemployment Assistance Act of 1956, the Federal Government may share with a province and its municipalities 50 p.c. of the cost of financial assistance to unemployed persons. A 1957 amendment deleted a provision under which federal reimbursement is made only in respect of recipients in excess of 0.45 p.c. of the provincial population. No distinction is made in the legislation between the employable and the unemployable.

Reimbursement is made to the province for payments within the existing provincial framework of general assistance. The scale and conditions of relief payments to recipients continue to be determined by the provinces and municipalities, except that the province agrees not to make length of residence a condition for the receipt of assistance when an applicant comes from another province which has signed a similar agreement.

The Act excludes federal reimbursement for payments for persons receiving mothers' allowances or persons who would normally be considered eligible for mothers' allowances. While it also generally excludes inmates of public and charitable institutions, it provides for federal sharing of provincial and municipal payments for those in certain types of homes for special care. Those receiving various types of social security payments under other programs are also excluded but the Federal Government shares with the provinces any additional relief payments, other than cost-of-living bonus or across-the-board pension supplements, made to such persons who are unemployed and in need. Health care and administration costs are also excluded from Federal Government reimbursement.

Agreements for the payment of federal assistance, effective July 1, 1955, were made with five provinces—Newfoundland, Prince Edward Island, Manitoba, Saskatchewan and British Columbia. New Brunswick and Ontario entered the scheme, effective Jan. 1, 1956, and Dec. 1, 1956, respectively; and Nova Scotia and Alberta, effective from Jan. 1, 1958.

10.—Unemployment Assistance, by Province, Years Ended Mar. 31, 1956-58

Province and Year	Federal Share of Unemployment Assistance Costs	Recipients in March	Province and Year	Federal Share of Unemployment Assistance Costs	Recipients in March
	\$	No.		\$	No.
Newfoundland.....1956 ¹	1,174,735	38,641	Manitoba.....1956 ¹	492,692	10,905
1957	1,562,058	39,489	1957	668,652	9,836
1958	1,787,626	45,799	1958	549,842 ⁵	..
Prince Edward Island....1956 ¹	55,033	1,596	Saskatchewan.....1956 ¹	369,519	10,464
1957	54,036	1,532	1957	512,678	10,123
1958	73,010	1,724	1958	813,080	12,873
Nova Scotia.....1958 ²	76,179	5,083	Alberta.....1958 ²	..	..
New Brunswick.....1956 ³	18,854	3,843	British Columbia.....1956 ¹	1,721,339	20,785
1957	32,887	3,797	1957	2,299,894	21,289
1958	94,217	5,800	1958	2,828,568	24,341
Ontario.....1957 ⁴	640,103	37,512	Totals.....1956	3,832,173	86,234
1958	3,617,332	61,623	1957	5,770,310	123,578
			1958	9,839,854	157,243

¹ Agreement effective from July 1, 1955.
 effective from Jan. 1, 1956.

² Agreement effective from Jan. 1, 1958.

⁴ Agreement effective from Dec. 1, 1956.

⁵ Agreement effective from Jan. 1, 1958.
³ Agreement effective from Dec. 1, 1956.
⁵ Eight months only.

Section 3.—Provincial Programs

Subsection 1.—Mothers' Allowances

All provinces make statutory provision for allowances to needy mothers who are deprived of the breadwinner and are unable to maintain their dependent children without assistance. Mothers' allowances programs, whether set out in separate Acts or included in other statutes such as child welfare or assistance Acts, have been administered as separate programs. There was a change in this pattern with the announcement of the Government of British Columbia that, as from Sept. 1, 1958, mothers' allowances would be discontinued and aid provided to needy mothers as to other needy persons under the Social Assistance Act. This is the culmination of a long-term trend in British Columbia of assisting needy mothers under this Act, which is considered more flexible in operation than the Mothers' Allowances Act. In an earlier change in Newfoundland the terms of the Mothers' Allowances Act were incorporated in the Social Assistance Act, but specific categories of needy mothers were retained as one of the three groups for which there are programs of aid under this Act.

The following general remarks do not apply to British Columbia, although the statistical tables include data for British Columbia for the year ended Mar. 31, 1958.

Subject to the conditions of eligibility which vary from province to province, mothers' allowances are payable from provincial funds to applicants who are widowed or whose husbands are mentally incapacitated and, except in Alberta, to those whose husbands are physically disabled and unable to support their families. They are also payable to deserted wives who meet specified conditions; in several provinces to mothers who have been granted a divorce or legal separation; in some, to unmarried mothers; and in Ontario and Quebec to certain Indian mothers. Foster mothers may be eligible under particular circumstances in most provinces.

The age limit for children is 15 years in one province, 16 years in six provinces, and 17 years in two provinces. Provision is made in most provinces to extend payment for a specified period if the child is attending school or if he is physically or mentally handicapped.

In all provinces applicants must satisfy conditions of need and residence but the amount of outside income and resources allowed and the length of residence required prior to application vary, the most common period being one year, although in one province it is five years. All provinces require that the applicant be resident at the time of application and generally that the child or children live with the recipient, and most provinces require that they continue to live in the province while in receipt of an allowance. In 1958, two provinces removed from their statutes the condition requiring Canadian or British citizenship.

In each province the relevant Act is administered by public welfare authorities. In some provinces a Mothers' Allowances Board or Commission makes the final decision regarding eligibility and the amount of allowances granted, or acts in an advisory capacity. Rates of benefit as of July 1958 are given in Table 11 and the number of families and children assisted and amounts of benefits paid as at Mar. 31, 1956-58, are given in Table 12.

11.—Maximum Monthly Rates under Provincial Mothers' Allowances Legislation, July 1958

Province	Mother and One Child	Each Additional Child	Disabled Father at Home	Family Maximum	Supplementary
Nfld. ¹	Food: \$33 or \$27 depending on age of child. Rent: up to \$20 monthly in rural and to \$30 monthly in urban areas.	\$8 for each child under age 16. \$12 for each child age 16 or over.	\$20	None set.	Fuel up to \$10 monthly; clothing to \$24 yearly for child under age 6, to \$36 for child age 6 and under age 16, to \$60 for person age 16 or over. In special circumstances up to \$30 a month additional if necessary for proper support of family.
P.E.I.....	\$45	\$5	No additional allowance granted.	\$75	None granted.
N.S.....	No set maximum; rates are based on average family income for community in which family lives.		No special provision; included in budget on which allowance is based.	\$90	None granted.
N.B.....	\$35	\$10	No additional allowance granted.	\$80	Director may grant an additional \$10 for rent if circumstances require it but only if allowance paid is below maximum.
Que.....	\$60	\$10	\$10	None set (minimum granted \$5).	A supplementary allowance of \$5 may be paid to a beneficiary incapable of working. Where need exists a special monthly allowance may be paid under the Quebec Public Charities Act through the municipality or a social agency. The cost is met in large part by the province, with some contribution by the municipality.
Ont.....	\$120 for mother or father and one child. \$30 for one child living with foster mother.	\$16 for 2nd child \$16 for 3rd child \$12 for 4th child \$10 for 5th child \$8 for 6th child \$25 for 2nd foster child \$15 for each additional foster child.	Included in budget.	\$180	An increase in food allowance may be granted on medical recommendation. A fuel allowance of up to \$24 a month may be granted from Sept. 1 to Mar. 31. An increase of 20 p.c. in fuel allowance may be granted under special circumstances.

¹ Allowances to needy mothers are paid under the Social Assistance Act.

11.—Maximum Monthly Rates under Provincial Mothers' Allowances Legislation, July 1958
—concluded

Province	Mother and One Child	Each Additional Child	Disabled Father at Home	Family Maximum	Supplementary
Man.....	Food, clothing and utilities: \$47- \$59 depending on age of child. Shelter: rent to \$55, or taxes insurance and minor repairs up to \$20 plus principal and interest on mortgage or agreement for sale and necessary major repairs.	\$14 for child up to 3 years \$16 for child 4 to years \$24 for child 7-11 years \$26 for child 12-18 years (Subject to deductions for fourth and each additional child).	\$25	None set.	\$10 monthly if family has no income. In case of extraordinary need up to \$180 a year may be granted; if house- keeper service is required this amount may be exceeded. Fuel allowance granted for eight months.
Sask.....	\$60 \$35 for one child living with a guardian.	\$10 \$20 for each additional child living with guardian.	\$20 Also if confined to a nursing home or san- atorium.	\$150 \$170 if disabled father at home, in nursing home or san- atorium.	The local municipality may grant sup- plementary aid under the Social Assist- ance program. Costs are shared between the province and municipality on a 75-25 basis; in unorganized territories the province assumes full cost.
Alta.....	\$70	\$20 for 2nd and 3rd child \$15 for 4th to 6th child \$10 for 7th to 9th child.	Not applicable.	\$185	Municipalities of residence may grant additional aid, 80 p.c. of the cost of which is reimbursed by the province; in unorganized territories the province assumes full cost.
B.C. ¹	\$42.50 plus \$34 from social allow- ance funds.	\$7.50 plus \$6.50 from social allow- ance funds.	\$7.50 plus \$8.50 from social allowance funds.	A maximum is set but there is no limit to the number who may benefit.	Extra expenditures for additional needs such as repairs and emergencies; also for dietary extras, housekeeper service, prenatal allowances and certain assist- ance to TB patients and TB contacts are met through social allowance funds. Costs shared by province and municipi- alities on 80-20 basis but province meets total cost of provincial cases and of prenatal allowances.

¹ From Sept. 1, 1958, all mothers' allowances cases were transferred to the Social Assistance caseload.

12.—Mothers' Allowances, by Province, as at Mar. 31, 1956-58

Province and Year	Families Assisted	Children Assisted	Benefits Paid
	No.	No.	\$
Newfoundland.....1956 ¹	386	1,001	718,259
Prince Edward Island.....1956	285	734	78,613
.....1957	238	668	73,729
.....1958	266	712	88,740
Nova Scotia.....1956	2,065	5,575	1,525,388
.....1957	2,107	5,688	1,554,176
.....1958	2,131	5,966	1,576,585
New Brunswick.....1956	2,022	5,825	1,250,075
.....1957	2,151	6,165	1,304,239
.....1958	2,213	6,360	1,336,043
Quebec.....1956	19,944	57,838	7,824,626
.....1957	19,397	56,261	8,275,010
.....1958	21,766	63,121	14,611,986
Ontario.....1956	7,266	16,664	6,760,779 ²
.....1957	7,418	17,309	6,985,225
.....1958	8,580	20,247	8,947,401
Manitoba.....1956	1,188	2,868	1,148,874
.....1957	1,128	2,700	1,147,851
.....1958	1,121	2,680	1,091,629
Saskatchewan.....1956	2,521	6,662	1,507,975
.....1957	2,390	6,263	1,481,599
.....1958	2,279	5,792	1,573,190
Alberta.....1956	1,809	4,105	1,314,733
.....1957	1,847	4,164	1,339,312
.....1958	1,879	4,234	1,512,651
British Columbia.....1956	323	742	184,688 ²
.....1957	284	652	159,769 ²
.....1958	243	584	143,000 ²
Canada.....1956	37,809	102,014	22,314,010
.....1957 ³	36,960	99,860	22,325,910
.....1958 ³	40,478	109,696	30,881,225

¹ Families receiving aid under the Mothers' Allowances Act which were not yet transferred to Social Assistance (see p. 274).

² Not including \$148,003, \$161,574, and an estimated \$144,000 paid as supplementation from social allowance funds in 1956, 1957 and 1958 respectively.

³ Exclusive of Newfoundland (see p. 274).

Subsection 2.—Provincial Welfare Services

The care and protection of neglected and dependent children, care of the aged, social assistance or relief and other special welfare services are governed by provincial legislation although in many areas responsibility for services rests with municipal or voluntary organizations. The programs and the methods of financing vary considerably, but most provinces share the costs of some or all of the municipal services in organized areas and assume the total cost in unorganized territories.

Newfoundland.—Provincial welfare services are administered by the Department of Public Welfare through a number of regional welfare centres.

Child Care and Protection.—Child welfare has developed largely as a public service and is administered by the Child Welfare Division. Neglected children, made wards of the Director, are placed in foster or adoptive homes or in institutions. The Department pays for the maintenance of wards, grants subsidies for children admitted to orphanages administered by religious organizations, and contributes towards the cost of educating blind and deaf-mute children in institutions outside the province. The Division operates an Infants' Home providing short-term care.

The Division of Corrections deals with juvenile delinquents and adult offenders and administers correctional institutions for boys and girls. A Youth Guidance Authority has been established.

Care of the Aged.—The province maintains a Home for the Aged and Infirm at St. John's and also pays in whole or in part the cost of maintaining needy old people in the Salvation Army Home, in the Cowan Mission Association Home, in licensed boarding homes or in private homes. In 1955, a grant of 20 p.c. of costs, to be paid over a ten-year period, was made to the Roman Catholic Episcopal Corporation for the construction of a home and provision is made for grants to similar projects under other auspices.

Social Assistance.—Aid is given under the provincial Social Assistance Act to certain needy mothers with dependent children, to incapacitated persons, and to unemployed persons. This aid is administered by the province, which receives 50 p.c. reimbursement from the Federal Government under the terms of the Unemployment Assistance Act.

Prince Edward Island.—The Department of Welfare and Labour is responsible for the administration of provincial welfare services.

Child Care and Protection.—Under the Children's Protection Act, neglected or delinquent children are placed under the guardianship of the Director of Child Welfare. They are cared for in foster or adoptive homes, boarding homes or children's institutions. Provincial grants are made to child welfare agencies and to the two private orphanages, one Protestant and one Roman Catholic. Juvenile Courts are under the Attorney General's Department and juvenile delinquents are cared for at the expense of the Department of Welfare and Labour in correctional institutions of neighbouring provinces.

Care of the Aged.—The aged and infirm are cared for in Falconwood Mental Hospital and in two provincial infirmaries.

Social Assistance.—The Department provides direct social assistance in rural areas and assumes 75 p.c. of the cost of assistance granted by the City of Charlottetown and the incorporated towns and villages. The Department also operates a province-wide program of financial aid to families where the bread-winner is suffering from tuberculosis and is unable to support the family. Under the terms of the Unemployment Assistance Act, the Federal Government reimburses the province for 50 p.c. of the costs of assistance.

Nova Scotia.—Provincial welfare services are administered by the Department of Public Welfare through a number of regional offices.

Child Care and Protection.—The child welfare program, including the inspection of institutions and the licensing of foster and maternity homes, is under the Director of Child Welfare. The Director supervises the 12 Children's Aid Societies to whom child care and protection is delegated and directly administers the program in the four areas in which societies are not organized. By court decision a neglected child may be made a ward of the Director or of a Children's Aid Society. The Societies are assisted by provincial grants and the cost of maintaining wards is shared by the province and municipality of residence.

The Department operates the Nova Scotia Training School for mentally defective children, and the Nova Scotia School for Boys for juvenile delinquents. It is also responsible for the operation of the nine Juvenile Courts and the supervision of their probation staffs. The municipality of residence is responsible for the maintenance of children in reformatories although the province may contribute also if the reformatory complies with specified standards.

Care of the Aged.—The aged are cared for in municipal or county homes, in homes operated by religious or private organizations and in private boarding homes where the municipality of residence may contribute to the cost of maintenance. The province

reimburses the municipalities for two-thirds of their expenditures for the maintenance of needy persons in municipal homes. Homes for the aged are subject to provincial inspection.

Social Assistance.—Social Assistance is administered by the municipality, which receives reimbursement from the province for two-thirds of the cost of assistance given and one-half of the costs of administration. The province assumes the full cost of aid to transients. As of Jan. 1, 1958, the province receives reimbursement of 50 p.c. of assistance from the Federal Government, under the terms of the Unemployment Assistance Act.

New Brunswick.—The Department of Health and Social Services administers provincial welfare legislation.

Child Care and Protection.—Under the Children's Protection Act, administered by the Minister of Health and Social Services, responsibility for protection and placement services is largely delegated to Children's Aid Societies. Guardianship of a neglected child may be vested in a Society, in the Director of Child Welfare or in the Court. Children's boarding homes, with some exceptions, are licensed and are subject to the provincial inspection required for all child care institutions. The province and the municipality of residence each contribute towards the maintenance of wards committed to an institution, and the province reimburses municipalities for one-half of the cost of maintaining wards placed in foster homes, up to a prescribed maximum. The province also makes grants to the Children's Aid Societies to assist in their general child welfare program. The Department may place blind or deaf-mute children in special schools outside the province. Juvenile Courts are under the Attorney General's Department and delinquent boys may be placed in the Provincial Industrial School for Boys which reports to the Minister of Health and Social Services.

Care of the Aged.—Homes for the aged are operated under municipal, religious, fraternal and private auspices, receiving no direct financial support from the province. Private homes are subject to provincial licensing and inspection under the Health Act.

Social Assistance.—Relief to needy persons is a local responsibility and is generally discharged through the provision of institutional or indoor relief to those in need. Outdoor relief is provided in a number of centres. Under the Unemployment Assistance Act, the Federal Government pays 50 p.c. of the assistance granted; this is distributed to the municipalities through the provincial Department of Municipal Affairs.

Quebec.—Provincial welfare measures are administered by the Department of Social Welfare and Youth. Legislation passed in 1956 provided for the transfer to that Department from the Department of Health of responsibilities under the Public Charities Act for orphanages, nurseries, adoption and welfare institutions and the placement of abandoned children. The Public Charities Act embodies the Government's policy of granting subsidies to religious and private institutions rather than creating public services. Grants representing a major share of the costs of the services are made by the province, with the municipalities and the institutions also contributing.

Child Care and Protection.—Needy or abandoned children have traditionally been cared for in institutions such as orphanages and nurseries although there has been a notable increase in the use of foster homes by child welfare agencies. Children who are found by a Social Welfare Court or other Court to be particularly exposed to moral or physical dangers may be admitted to recognized youth protection schools administered by the Department of Social Welfare and Youth. Municipalities of residence, depending on their size, contribute from 15 to 25 p.c. of the operating and maintenance costs of these schools; the province contributes the remainder and the entire cost of new construction. The Social Welfare Courts, which are under the jurisdiction of the Department of the Attorney General, have statutory responsibility in connection with child and youth protection and certain other provincial programs and also serve as Family Courts. Children who have

been exposed to tuberculosis but who have not been infected are placed with rural families under the supervision of the Department of Health in co-operation with child welfare agencies.

Care of the Aged.—Institutional care for indigent old people is provided under the Quebec Public Charities Act through private institutions. Under the same Act, family welfare agencies administer home allowances to needy old people who do not require institutional care. Standards in homes are governed by regulations under the provincial Public Health Act.

Social Assistance.—Assistance is given under the Public Charities Act, usually in the form of institutional care, but outdoor relief is provided through some municipal departments and private agencies. The Department of Colonization operates a program whereby families in need are settled on the land in newly opened districts and granted financial aid until they become self-supporting. In these areas a disability pension scheme is linked to a program of free medical services.

Ontario.—Provincial welfare services are administered by the Department of Public Welfare. The province is divided into 17 welfare districts each in charge of a supervisor.

Child Care and Protection.—Responsibility for the local administration of the Child Welfare Act is delegated by the province to Children's Aid Societies under the supervision of the Director of Child Welfare. Maintenance costs of children made wards of a society or taken into care as non-wards on agreement with a municipality are paid by the municipality of residence with a 40-p.c. reimbursement by the province. The province also makes annual grants to the societies for their work other than the care and maintenance of children. Children's institutions are governed by provisions of the Charitable Institutions Act and day nurseries by the Day Nurseries Act. In 1957 a Children's Boarding Homes Act was passed requiring the registration of all premises not covered by other legislation in which five or more children not related to one another are lodged, boarded or cared for. The Act provides for inspection and for the establishment of standards in the operation of the homes. The province makes per diem grants for children in charitable institutions and pays one-half of the operating and maintenance costs of municipal day nurseries. Juvenile Courts are under the Attorney General's Department and training schools for juvenile offenders are operated by the Department of Reform Institutions.

Care of the Aged.—Under the Homes for the Aged Act municipalities must provide institutional or boarding home care for the aged. The province contributes 50 p.c. of the cost of constructing approved homes or of purchasing and altering a building for use as a home and of approved additions and extensions, and 70 p.c. of their net operating and maintenance costs. It also pays up to 70 p.c. of the cost of maintenance in approved boarding homes. Private homes for the aged are approved, inspected and assisted under the Charitable Institutions Act which provides grants-in-aid of construction equalling 50 p.c. of the costs up to \$2,500 per bed and maintenance grants of 75 p.c. of the amount spent by the organization for the maintenance of each resident up to \$3.30 a day. The Elderly Persons Housing Aid Act provides for grants to limited-dividend housing corporations building low-rental housing for elderly persons.

Social Assistance.—Under the provincial Unemployment Relief Act the province reimburses municipalities, up to a prescribed maximum, for 80 p.c. of their expenditures on relief to needy persons and on incapacitation allowances and rehabilitative measures for single needy handicapped residents. In unorganized areas the program is administered and financed by the Department. The Federal Government reimburses the province for 50 p.c. of costs of assistance under the terms of the Unemployment Assistance Act. The Soldiers' Aid Commission extends emergency assistance and advice to ex-servicemen and their families.

Manitoba.—The Public Welfare Division of the Department of Health and Public Welfare is responsible for provincial welfare services.

Child Care and Protection.—The Director of Public Welfare administers provincial child welfare legislation, including the supervision of Children's Aid Societies and of child care institutions. The Public Welfare Division administers child welfare services in a large area of the province, through decentralized district offices. In the remainder of the province the Director supervises four non-denominational Children's Aid Societies and one sectarian society. Neglected children may be made wards of the Director of Public Welfare or of a Children's Aid Society. Municipalities are responsible for the maintenance of wards with provincial reimbursement on the basis outlined below under Social Assistance. Payment of annual provincial grants to Children's Aid Societies is conditional on the provision of a basic level of service and the collection of substantial voluntary contributions.

Care of the Aged.—Institutions and nursing homes for the aged and infirm are supervised and licensed by the Department under public health legislation. Under the Elderly Persons Housing Act, the province makes construction grants to municipalities, charitable organizations or limited-dividend companies equalling 20 p.c. of costs for housing accommodation and one-third of the costs of building and renovating homes for the aged. Under the Social Assistance Act the province reimburses the municipalities for 80 p.c. of the amount they spend for the maintenance of needy older persons in boarding or nursing homes.

Social Assistance.—Municipalities are responsible for social assistance, which is defined as relief to indigents, together with maintenance costs of children under the Child Welfare Act. The province reimburses a municipality to the extent of at least 40 p.c. of its social assistance costs; where it is to the municipality's advantage, provincial reimbursement is on the basis of 80 p.c. of excess of the municipality's social assistance costs over the revenue the municipality receives from a tax levy of one mill on its equalized assessment. The province is responsible for aid to persons without municipal residence as well as for general assistance in unorganized territory. Under the terms of the Unemployment Assistance Act, the Federal Government reimburses the province for 50 p.c. of the costs of assistance.

Saskatchewan.—Provincial welfare services are administered by the Department of Social Welfare and Rehabilitation.

Child Care and Protection.—The Department provides welfare services for children throughout the province with the exception of Saskatoon where certain responsibilities are delegated to the Children's Aid Society. Children found to be neglected are, by court order, made wards of the Minister and are placed in foster homes, adoptive homes, or institutions. A portion of the maintenance costs of wards, except of children born out of wedlock for whom the province assumes the entire cost, is paid by the municipality of residence. The Branch operates three institutions for the temporary care of wards and also a program of non-ward care.

The Corrections Branch of the Department is responsible for both adult and juvenile correctional services, supervises probation and parole services for juvenile delinquents and administers the Saskatchewan Boys' School and the provincial gaols. A Youth Guidance Authority supervises the discharging of juveniles from probation, from institutions and from parole.

Care of the Aged.—Aged and infirm persons are cared for in four provincial nursing homes and in private homes for the aged. The latter are inspected and licensed under the Housing Act which also empowers the province and municipalities to subscribe to the stock of limited-dividend housing companies building low-rental accommodation for older

persons. The province may also make loans to the municipalities to assist them in subscribing. Capital grants amounting to 20 p.c. of construction costs and also maintenance grants equalling \$40 per bed per year may be made to municipalities, church or charitable organizations sponsoring approved homes or housing projects.

Social Assistance and Special Services.—The costs of assistance to needy persons with municipal residence are divided on a 75-25 basis between the province and the municipalities and the province pays the entire cost for transients and for persons in unorganized areas. The Federal Government, under the terms of the Unemployment Assistance Act, reimburses the province for 50 p.c. of the costs of assistance.

The Rehabilitation Branch provides training and placement services for the handicapped; one-half the cost of this training is borne by the province and one-half by the municipality of residence. It is also responsible for the rehabilitation of minority groups and operates a farm where the métis—persons of mixed Indian and white stock who do not qualify under the Indian Act—are instructed in modern methods of farming while being paid for their work. Three schools are conducted for métis children.

The Department administers the Provincial Housing Act which empowers the province to enter into public housing projects under the National Housing Act, and to stimulate construction of low-rental housing projects by limited-dividend housing corporations.

Alberta.—The Department of Public Welfare is responsible for the administration of provincial welfare measures. It has branches in the four larger urban centres and inspectors are located in other areas throughout the province.

Child Care and Protection.—The provincial child welfare program is directed by a Child Welfare Commission. Neglected children, made wards of the government by court order or by agreement, may be placed in foster homes, adoptive homes or institutions. The cost of maintenance of wards is paid by the province. The Home Investigating Committee is responsible for the inspection and the licensing, where required, of all homes and institutions in which children are given care. The Attorney General's Department administers legislation regarding juvenile delinquency.

Care of the Aged.—Provincial grants of \$1,500 a bed for new construction or equalling one-third of costs or \$750 for every 200 sq. feet of occupied floor space for renovation of a building may be made to municipalities establishing homes with ten or more beds for aged or infirm persons. The province also meets up to 80 p.c. of the cost incurred by municipalities for the maintenance of indigent aged and infirm persons in homes licensed by the municipality in accordance with specified standards.

Social Assistance.—Municipalities are responsible for assistance to indigent residents but the province reimburses the municipalities for up to 80 p.c. of the value of the assistance and pays the total cost of assistance to transients. As of Jan. 1, 1958, the province receives reimbursement of 50 p.c. of the cost of assistance from the Federal Government under the terms of the Unemployment Assistance Act. The province administers relief to residents of unorganized districts. Families may be assisted through settlement on suitable farm lands. The Single Men's Branch maintains two hostels and one welfare centre to care for unemployable single homeless men without municipal domicile. The province has also established a number of métis colonies where settlers have extensive fishing, hunting and trapping rights and are encouraged to engage in lumbering, agriculture and stock-raising. Educational services are provided and government operated stores sell goods at cost price.

Widows Pensions.—Under the Widows Pension Act, widows aged 60 to 64 years inclusive may receive pensions of up to \$55 per month. Also included in this category are wives of men committed to mental hospitals or deserted wives who meet the conditions of need and residence and are within the designated age group.

British Columbia.—Administration of provincial services by the Social Welfare Branch of the Department of Health and Welfare is decentralized through district and municipal offices in six regions covering the whole province. Generalized field service is provided by provincial social workers. The staff of the Social Welfare Branch is also responsible for welfare services required in connection with a number of programs operated by the Health Branch.

Cities and municipalities of over 10,000 population must have their own social welfare departments to administer the social assistance program and to provide case-work services. The province pays 50 p.c. of the salaries of municipal social workers or, where more than one is needed, matches the municipal appointees, worker for worker. Smaller municipalities may have their own or amalgamated social welfare departments or they may pay for the services of the Social Welfare Branch.

Child Care and Protection.—The Child Welfare Division administers legislation governing the protection of children, including adoptions, and provides direct services except at Vancouver and Victoria where it supervises the Children's Aid Societies. Municipalities are responsible for the costs of maintaining wards but the province reimburses them to the extent of 85 p.c. of such expenditure and pays the entire cost for children in unorganized areas. The province pays the total maintenance cost of wards who are children of unmarried mothers. Child care institutions, boarding homes and day nurseries are licensed and supervised. The Social Welfare Branch administers an industrial school for delinquent boys and one for delinquent girls. Juvenile Courts are under the jurisdiction of the Attorney General's Department.

Care of the Aged.—The province operates the Provincial Home for elderly homeless men, the Provincial Infirmary for the chronically ill and the Provincial Homes for the Aged for senile and psychotic patients. It also licenses and supervises homes for the aged, nursing homes, and boarding homes and, where necessary, shares with the municipalities on an 80-20 basis the costs of maintaining needy residents. The province meets the total costs for provincial charges. Under the Elderly Citizens Housing Aid Act the province makes grants amounting to one-third of construction costs to municipalities and non-profit corporations, including religious and service organizations, building homes or low-rental housing units for elderly citizens.

Social Assistance.—The social assistance program is administered by the local municipal office or by the provincial district office. It includes allowances to indigent individuals or families, counselling services, occupational training and the maintenance costs of nursing home or boarding home care. The province reimburses the municipalities for 90 p.c. of the cost of basic and certain supplementary social assistance payments to indigent municipal residents and assumes the total cost of assistance granted for those without municipal residence. The Federal Government reimburses the province by 50 p.c. of the costs of assistance, under the terms of the Unemployment Assistance Act.

Subsection 3.—Workmen's Compensation

In all ten provinces, legislation is in force providing for compensation for injury to a workman by accident arising out of and in the course of employment or by a specified industrial disease. A summary of provincial workmen's compensation legislation is given in Chapter XVII.

Subsection 4.—Charitable and Benevolent Institutions

Statistics of charitable and benevolent institutions were secured by the Census of 1951 and covered the 1950 activities of 533 institutions, 490 being residential institutions and 43 being day nurseries. Summary statistics are given in the 1954 Year Book, p. 263.

PART III.—NATIONAL VOLUNTARY HEALTH AND WELFARE ACTIVITIES

A number of national voluntary agencies carry on important work in the provision of health and welfare services, planning and education. These agencies, some of which are described below, supplement the services of the federal and provincial authorities in many fields and play a leading role in stimulating public awareness of health and welfare needs and in promoting action to meet them.

The Canadian Welfare Council.—The Council, established in 1920, is a national voluntary association of organizations and individual citizens whose aim is to further the development of social services in Canada. Member organizations include community funds and councils, other private social agencies, various federal, provincial and municipal departments, and citizen groups and individuals active in the fields of health, welfare and recreation. It furnishes authoritative information, technical consultation and field service in the main areas of social welfare and provides a means of co-operative planning and action by public and private agencies.

The policies and programs of the Council are determined by its members under the leadership of a nationally representative board of governors. Aided by professional staff, the members work together through Divisions of Family and Child Welfare, Recreation, Public Welfare, Corrections, and Community Chests and Councils, and through special committees on such subjects as welfare of immigrants and the aging. Departments of the Council include the Information Branch and French Speaking Services. Council publications include the periodicals *Canadian Welfare* and *Bien-Être Social Canadien*, a directory of Canadian welfare services, pamphlets, and division bulletins.

The Canadian Red Cross Society.—Established in 1896 in Canada, the Society is affiliated with the International Red Cross and has branches in all ten provinces with a national headquarters in Toronto. Its objectives, defined in its Charter, are "... in time of peace or war to carry on and assist in work for the improvement of health, the prevention of disease and the mitigation of suffering throughout the world". Its activities cover a very broad area, ranging from national and international disaster relief services to the support of local projects. One of its major activities in Canada has been the operation of blood banks in co-operation with provincial health departments; it also maintains outpost hospitals, nursing stations and emergency units in several provinces. The Junior Red Cross promotes health education through its schoolroom branches across Canada; it supports a special fund to supply treatment to indigent handicapped children in Canada and a fund to promote international understanding.

Victorian Order of Nurses.*—Since its inception in 1897, the Victorian Order of Nurses has provided a professional home nursing and health counselling service. In all provinces except Prince Edward Island, the association's nurses carry out bedside nursing, prenatal, postnatal and newborn care. In some provinces they also assist provincial health authorities in tuberculosis and venereal disease programs and conduct child health clinics. In 1958 the Order had 117 branches located in nine provinces. The national office is in Ottawa.

The Canadian National Institute for the Blind.—Since its inception in 1918 the Canadian National Institute for the Blind has been dedicated to the provision of rehabilitation and social welfare services to the blind and to those with partial sight. The national office, located in Toronto, serves all provinces through its seven regional divisions and 46 branches. The Institute provides both social services and financial assistance; it arranges for examinations and eye treatment services, purchases glasses for needy individuals and operates an eye bank. Under an extensive rehabilitation program with training facilities centred in Toronto, it trains blind persons in various occupations,

* A more complete picture of visiting nursing services of the Order may be found in the 1957-58 Year Book, pp. 269-270.

offers job counselling and placement services and, for those who cannot compete in industry, it provides sheltered workshops; its more than 8,000 newspaper, tobacco and confectionery concession stands are operated by blind persons. Sightless field workers bring a home-training program to blind persons to help them learn Braille, typing and handicrafts, and a special program for pre-school blind children prepares them for attendance at a school for the blind. The Institute builds and maintains residential quarters and recreational facilities in all larger centres and supplies Braille books and recordings to the blind from its national library in Toronto.

The Health League of Canada.—The Health League of Canada, first established in 1918 as a National Committee for Combating Venereal Disease, now embraces about sixty national member associations supporting a wide variety of health activities. The primary objectives of the League are the promotion of personal and community health and the prevention of disease through health education. Its major activities are administered from a national office in Toronto, usually working through the affiliated organizations. Educational efforts include the provision of speakers for meetings and the preparation of radio scripts, health education films and literature; a magazine is published bi-monthly and weekly news bulletins are released to the press. The League also sponsors a National Health Week and a National Immunization Week.

St. John Ambulance Association.—The St. John Ambulance Association began as a local unit in Montreal in 1884. The Association is composed of two parts, the St. John Ambulance Association and the St. John Ambulance Brigade, the first devoted to teaching first aid and home nursing and the latter directing the emergency corps of trained personnel. Headquarters of the Association is in Ottawa, with provincial divisions in all provinces controlling their own programs and financing the operation of their local branches.

The Canadian Tuberculosis Association.—Founded in 1900 to stimulate public demand for increased treatment facilities, the Association has extended its objectives to case-finding, diagnostic services, rehabilitation of ex-patients and public education. Provincial organizations, which exist in all provinces, are largely autonomous, with the national office in Ottawa acting as a co-ordinating agency for the distribution of publicity material and as an advisory body to government agencies as well as to the provincial and local branches. The most important activity of the provincial bodies is the chest X-ray program, which annually reaches nearly two million individuals. Some provincial units also provide BCG vaccination to selected groups, supply nursing, welfare and rehabilitation services to patients as well as follow-up services. The Association and its provincial bodies are supported by the sale of Christmas seals, with federal and provincial governments providing grants for specific projects.

The National Cancer Institute of Canada.—The National Cancer Institute, composed of persons representing professional societies and agencies concerned with cancer research and therapy, was founded in 1947 to develop a nationally co-ordinated research and professional education program. The Institute promotes fundamental research through selected projects in universities, hospitals and research centres, maintains a Canadian Tumour Registry, provides training fellowships and, in co-operation with the Canadian Medical Association and medical schools, promotes professional education on cancer topics. The Institute receives support from federal and provincial grants and from the Canadian Cancer Society; a special project on lung cancer has been supported by the Canadian Tobacco Industry.

The Canadian Hearing Society.—Organized in Toronto in 1940 as the National Society of the Deaf and the Hard of Hearing, the Society operates chiefly in Toronto and the surrounding area. It is concerned with the preservation of hearing, the treatment of deafness and the provision of rehabilitation services for those with impaired hearing. It provides otological examinations, counselling, vocational guidance and job placement services for the deaf or hard of hearing, and hearing aids to indigent persons.

The Canadian Mental Health Association.—The Association, organized in 1918 as the National Committee for Mental Hygiene, now has divisions in all provinces except Prince Edward Island and Newfoundland; its national office is located in Toronto. Since its inception the organization has participated directly or indirectly in almost every development in the mental health field in Canada. The Association conducts an active public education program, serves as consultant to government departments, welfare agencies and voluntary organizations, operates a teacher training program and encourages research. It is supported by voluntary donations and federal and provincial grants.

The Canadian Cancer Society.—Organized in 1938 to co-ordinate voluntary activities and disseminate knowledge in the cancer field, the Canadian Cancer Society operates in all provinces and has its national office in Toronto. Its services include a public education program, welfare services such as transportation, home nursing and cancer dressings to needy persons, and fellowships to medical graduates for advanced study in cancer. Voluntary subscriptions to the Society provide the major source of funds for the basic research program of the National Cancer Institute of Canada. The Society also supports clinical research.

National Heart Foundation of Canada.—The Canadian Heart Foundation, formed in 1947 by physicians to co-ordinate research and disseminate information, was replaced by the National Heart Foundation of Canada in 1956. Its membership consists of lay and medical organizations interested in promoting or assisting research on cardiovascular diseases. Its national office is in Toronto. Provincial branches have been established in all provinces from Quebec west.

The Canadian Paraplegic Association.—The Canadian Paraplegic Association, which was established in 1945 to complement the specialized treatment and rehabilitation services developed for veterans by the Department of Veterans Affairs, now includes services for civilian paraplegic cases and persons seriously handicapped by poliomyelitis and other disabling conditions. The national office of the Association and the major treatment centre, Lyndhurst Lodge, are housed in the same building in Toronto, Ont. Services include in-patient and out-patient therapy, the provision of prosthetic appliances, loans to patients, and rehabilitation services such as job counselling. Four regional divisions also have been established—the Maritime, Quebec, Central Western and Western Divisions. The Western Division is affiliated with the G.F. Strong Rehabilitation Centre in Vancouver.

The Canadian Council for Crippled Children and Adults.—The Council was established in 1937 to co-ordinate and support activities for the care and rehabilitation of physically impaired children. The first provincial organization was formed in Ontario in 1922 and similar organizations, which have remained autonomous, now exist in all provinces except Prince Edward Island. In 1954 the services of the organization were extended to include adults. Programs in the provinces vary, ranging from the establishment of cerebral palsy clinics and the operation of summer camps for the handicapped, to payment for treatment services, prosthetics, and hospital and nursing care for needy handicapped persons. In most provinces, service clubs raise funds to support the work of the organization, particularly through the sale of Easter Seals.

The Canadian Arthritis and Rheumatism Society.—Established in 1948 to promote research, professional education and treatment services in the field of rheumatism and arthritis and to disseminate factual information, the Society has branches operating in all provinces except Prince Edward Island and Newfoundland; its national office is in Toronto, Ont. Medical advisory boards in each of the eight provinces and one at the national level give advice and guidance to the provincial and national directors. The Society sponsors an educational program both for the general public and for physicians. It encourages the establishment of stationary clinics in general hospitals for the treatment of low-income patients. Its branches pioneered in the operation of mobile clinics and now operate some seventy units to bring treatment to home-bound patients and in two provinces

support a mobile consultative service. The national body promotes research projects in various universities and institutions and provides clinical fellowships to physicians in all parts of Canada.

Multiple Sclerosis Society of Canada.—Organized in 1948 to encourage, support and co-ordinate research regarding multiple sclerosis, the Society also compiles statistics and carries on public education. The national office in Ottawa is maintained by twelve provincial and local chapters whose chief function is fund raising from which research projects are financed.

The Canadian Association for Retarded Children.—The Association was incorporated in 1958 to assist and give co-ordinated direction to the work of a growing number of organizations for the mentally retarded as represented by 10 provincial and some 105 local groups. Membership of the locals exceeds 12,000, most of whom are parents of mentally retarded children.

The Muscular Dystrophy Association of Canada.—This Association was organized in 1954 to stimulate and unify efforts in research into the cause, nature and cure of muscular dystrophy and to promote the establishment of facilities for diagnostic, consultative and treatment services. It has a national office in Toronto supported by nine regional chapters and its chief activity is the support of research projects in medical centres across the country.

PART IV.—VETERANS SERVICES*

The Department of Veterans Affairs administers most of the legislation making up the Veterans Charter and provides administrative facilities for the Canadian Pension Commission which administers the Pension Act and the Civilian War Pensions and Allowances Act, for the War Veterans Allowance Board which is responsible for the War Veterans Allowance Act, and for the Secretary-General of the Imperial War Graves Commission (Canada).

The main benefits now provided to veterans consist of medical treatment for those eligible to receive it, land settlement and home construction assistance, educational assistance for children of the war dead, veterans insurance, general welfare services, disability and widows pensions, and war veterans allowances. The work of the Department, excepting the administration of the Veterans' Land Act, is carried out through 17 district and five sub-district offices in Canada and one district office in England. There are eight VLA district offices and 31 regional offices to administer the benefits of that Act.

Section 1.—Medical, Dental and Prosthetic Services

Medical Services.—The Department of Veterans Affairs, through its Treatment Services Branch, provides medical services for eligible veterans across Canada. Service is also provided for members of the Armed Services, the Royal Canadian Mounted Police, and the wards of other governments or departments at the request and expense of the authorities concerned.

The primary responsibility of the Branch is provision of examination and treatment to disability pensioners for their pensionable disabilities. These veterans constitute about one-quarter of the in-patient load. Treatment is provided to the pensioner regardless of his place of residence, but service to other veterans is available in Canada only.

Other main groups of veterans receiving treatment are War Veterans Allowance recipients, veterans whose service and need make them eligible for domiciliary care, and veterans whose service and financial circumstances render them eligible for free treatment, or at a cost adjusted to their ability to pay. If beds are available, any veteran may receive treatment in a departmental hospital on a guarantee of payment of the cost of treatment.

* Prepared by the Department of Veterans Affairs, Ottawa.

Treatment is provided across Canada in 11 active treatment hospitals, two convalescent centres, and two homes maintained for the provision of domiciliary care. The operating capacity of these institutions at Mar. 31, 1958, was 9,215 beds. An additional 588 beds are available in veterans pavilions situated at Ottawa, Regina and Edmonton. Pavilions are owned by the Department but are operated by the parent hospital and medical staff is provided by the Department. Where departmental facilities are not available, the eligible veteran may receive treatment under the Doctor-of-Choice Plan in the hospital of his choice by his own doctor, at the expense of the Department. Professional staffs of active treatment hospitals are employed on a part-time basis; in the main they are recommended for appointment by the Deans of Medicine of the universities with which the hospitals are affiliated. The majority are members of medical faculties, engaged in teaching and private practice.

The Department maintains research and medical teaching programs in its institutions, both of which are considered essential to attract highly qualified professional men and thus ensure the veteran of the highest quality of medical care. All active treatment hospitals have been approved by the Royal College of Physicians and Surgeons of Canada for postgraduate teaching in medicine and surgery, and the majority are approved for advanced postgraduate training in the various specialties. An intern-resident program is in effect; at the end of March 1958, 266 residents and interns were in training together with 135 interns in occupational therapy, physiotherapy, psychology, laboratory, and medical social services.

Since the inception of the Clinical Research Program in 1950 over 400 research projects have been considered and approval given to 300. During the fiscal year 1957-58 about 100 projects were in progress. The program is varied, but in the main deals with conditions affecting aging, which the Department is in a unique position to investigate. Clinical Investigation Units have been set up in active treatment hospitals located at Montreal, Toronto, London, Winnipeg, and Vancouver. These are self-contained units providing detailed metabolic and other studies essential for research and treatment.

During the year ended Mar. 31, 1958, 42 departmental employees attended courses assisted fully or partly by the research and educational vote. At the end of the year one school for nursing assistants remained in operation. This school, at Camp Hill Hospital in Halifax, has an annual capacity of 60 graduates who are offered employment in departmental hospitals across Canada.

Departmental hospitals provide base hospital facilities for the treatment of members of the Armed Forces. The Ste. Foy Hospital, near Quebec City, and Sunnybrook at Toronto have self-contained units but in other institutions there is a close integration of patients. The units are staffed by Armed Service personnel and utilize the ancillary services of the hospital. They also provide training facilities for members of the medical services of the Armed Forces.

Much progress has been made toward the ultimate goal of a nation-wide chain of modern fire-resistant institutions, by replacement of obsolete accommodation. Patient-load for the year ended Mar. 31, 1958, was as follows:—

<i>Item</i>	<i>No.</i>
Patients in departmental hospitals at Mar. 31.....	7,844
Patients in other hospitals at Mar. 31.....	2,992
Out-patients on strength at Mar. 31.....	436
TOTAL PATIENTS AT MAR. 31.....	11,272
Admissions to departmental hospitals during year.....	51,937
Admissions to other hospitals during year.....	22,272
Admissions to out-patient strength during year.....	2,104
TOTAL ADMISSIONS DURING YEAR.....	76,313
Patient-days in departmental hospitals 1957-58.....	2,750,854
Patient-days in other hospitals 1957-58.....	930,771
TOTAL PATIENT-DAYS.....	3,681,625

During the fiscal year 1957-58, several amendments were made to Treatment Regulations. Among the more important were those pertaining to Sect. 13, where eligibility with respect to war service and financial circumstances was aligned with the applicable section of the War Veterans Allowance Act. Also, upward adjustments were made in travel and other allowances paid to veterans required to report for examination or treatment by the Department or the Canadian Pension Commission. Effective Jan. 1, 1958, the Department obtained authority to pay for the services of non-departmental physicians at a rate up to 90 p.c. of the pertinent provincial minimum tariff. This change eliminated the DVA Schedule of Fees previously in effect.

The role of DVA hospitals under the Federal-Provincial Hospital Insurance Plan was agreed upon after discussions with representatives of the Department of National Health and Welfare and with the provincial governments concerned. Departmental hospitals will be recognized for the provision of insured services to veterans and arrangements have been made to pay, on behalf of veterans who are WVA recipients, any premiums necessary to have them insured under the Plan. Co-insurance charges, where they apply, and medical and surgical costs will be the responsibility of the Department. The Veterans Treatment Regulations remain the authority for the treatment of veterans (and others) in DVA institutions and elsewhere under Departmental aegis, regardless of whether or not the hospitalization is at the expense of the Hospital Insurance Plan.

Dental Services.—Dental treatment is provided for those pensioned veterans whose disability would be alleviated by such treatment, for War Veterans Allowance recipients, and for other persons whose health care is the responsibility of the Department, such as Royal Canadian Mounted Police personnel and members of the Canadian Forces. Treatment is also provided at the request of other governments. The Department employs 37 full-time dentists, one half-time dentist and two dental consultants, specialists in their fields, on a part-time basis. Twenty dental clinics are maintained in Departmental hospitals and centres, 18 of them on a full-time basis. Elsewhere the services of private dentists on a "fee-for-service" basis are utilized. Treatment provided by the Department in the fiscal year 1957-58 consisted of 101,486 operations for 18,594 patients.

Training courses for Departmental dental surgeons in the various specialties of dentistry have been sponsored by the Department since 1948. Many Departmental dentists have given instructional clinics at various national and regional conventions, participated in the research programs of their respective hospitals, and assisted the dental colleges by part-time lecturing.

Prosthetic Services.—The administration of Prosthetic Services is now under the jurisdiction of the Director General of Treatment Services, assisted by a Prosthetic Services Advisory Committee consisting of medical, orthopaedic, and engineering authorities and a representative from the War Amputations of Canada.

The Services provide prosthetic and orthopaedic appliances as well as sensory aids to Canada's disabled veterans, and conduct a service for maintaining such appliances. Service is available to other departments and governments on a repayment basis. During the 1957-58 fiscal year, 71,485 patients received 135,723 appliances or repairs to appliances.

Twelve main centres and six sub-centres located in or near DVA hospitals or district offices are the points of contact for the disabled veterans and others requiring appliances and service. A factory located in Sunnybrook Hospital produces stock parts and is a central stores depot for the other centres. A research section at that hospital has made effective progress in the production of a mechanical hand and cosmetic glove, a roto-wrist below-elbow arm and a plastic above-knee shin. Work is also continuing on the above-elbow arm prosthesis with automatic locking device and shoulder suspension, the below-knee plastic prosthesis with solid-ankle cushion-heel foot and on other devices. Information is freely exchanged with prosthetic research workers in other countries, particularly the United Kingdom and the United States.

Section 2.—Rehabilitation of Veterans

The Welfare Services Branch of the Department of Veterans Affairs, in addition to administering the legislation authorizing rehabilitation benefits still available, provides advice regarding other welfare assistance that may be available to veterans and their dependants, widows, and orphans. The solving of the many and varied problems confronting the Branch requires the closest liaison with other federal government departments, with provincial and municipal government departments and with national and local welfare agencies.

War Service Gratuity.—The payment of war service gratuities was discontinued after Dec. 31, 1954, for World War II veterans, except for those with overseas service who could not apply before that date as a result of unusual circumstances. The amounts paid in gratuities up to the end of the fiscal year 1954-55 are shown in the 1956 Year Book, p. 306. Those paid subsequently and the cumulative totals were:—

<i>Fiscal Year</i>	<i>World War II Veterans</i>	<i>Special Force Veterans</i>
	\$	\$
1955-56.....	30,536	16,932
1956-57.....	9,457	7,351
1957-58.....	10,016	1,230
Totals to Mar. 31, 1958.....	470,022,048	6,690,052

Re-establishment Credit.—On Mar. 31, 1958, an amount of \$20,098,967 in re-establishment credit, out of nearly \$325,000,000, had not yet been authorized on behalf of the veterans entitled to it. These veterans have until Dec. 31, 1959, or 15 years after discharge, whichever is the later, to apply for their unused credit. The amounts paid during 1956-57 and 1957-58, and the cumulative totals to Mar. 31, 1958, by required purposes, are shown in Table 1.

1.—Re-establishment Credits Paid, by Required Purpose, Years Ended Mar. 31, 1957 and 1958, with Cumulative Totals to Mar. 31, 1958

Purpose	1957	1958	Cumulative Total to Mar. 31, 1958
	\$	\$	\$
Homes	1,432,454	1,097,460	239,045,931
Purchased under National Housing Act.....	20,991	7,952	3,333,474
Purchased other than under National Housing Act.....	107,324	67,018	32,401,395
Repairs, etc.....	130,800	107,711	16,660,319
Furniture and equipment.....	1,154,285	891,304	182,165,510
Reduction of mortgage.....	19,054	23,475	4,485,233
Business	280,916	190,884	55,245,443
Purchase of a business.....	3,470	1,846	3,676,798
Working capital.....	66,109	29,265	25,236,539
Tools and equipment.....	211,337	159,773	26,332,106
Miscellaneous	389,891	292,823	10,068,707
Insurance, annuities, etc.....	201,719	170,050	8,933,701
Special equipment for training.....	17,852	13,075	729,332
Clothing.....	21,889	28,984	176,528
Reimbursements.....	148,431	80,714	229,146
Totals	2,103,261	1,581,167	304,360,081

Casualty Rehabilitation.—The function of the Casualty Welfare Division is outlined in the 1956 Year Book, p. 307. At the end of March 1958 there were 4,177 active cases. The total number of disabled veterans registered with the Division since its establishment was 45,418 and of these 41,241 were closed cases. Registrations during 1957-58 numbered 1,530 and cases closed numbered 2,899.

2.—Statistics re Registrations for Casualty Rehabilitation up to Mar. 31, 1958

Type of Disability	Active Cases as at Mar. 31	Total Closed Cases	Status	Registrants up to—	
				Mar. 31, 1957	Mar. 31, 1958
	No.	No.		No.	No.
Amputation.....	169	2,220	Employed.....	34,893	36,087
Neuro-muscular and skeletal system disabilities.....	1,101	12,796	Unemployed.....	777	902
Total and partial loss of hearing or sight.....	214	3,045	Receiving treatment, training or other services.....	1,824	1,795
Neurological cases.....	213	1,532	Rehabilitation not feasible.....	3,082	3,732
Heart and vascular system.....	234	4,082	Closed on WVA.....	1,492	1,740
Respiratory disabilities.....	1,296	10,938	Left Canada.....	1,055	1,162
Mental and emotional disabilities..	379	1,196			
Unclassified.....	571	5,432			
Totals.....	4,177	41,241	Totals.....	43,123	45,418

Social Services.—The Social Services Division provides a “case-work” service to veterans and their dependants, and a social welfare consultant service to other Departmental officials dealing with welfare matters. It maintains liaison, in the interest of veterans and their dependants, with welfare departments at all levels of government and with private social and philanthropic agencies.

The Division has certain responsibilities in connection with the operation of the Assistance Fund available to War Veterans Allowance recipients who are in need (*see* p. 292). At the request of the Department of National Defence it furnishes reports on home circumstances of Armed Forces personnel who request compassionate leave, posting or discharge. The latter service is often instrumental in providing help to those concerned through counselling and referral to community welfare services.

During the year ended Mar. 31, 1958, there were 15,226 requests for services from all sources, an 11-p.c. increase over the previous year.

Older Veterans.—During the year ended Mar. 31, 1958, emphasis continued on services to veterans and their dependants who, through age, merit special assistance in obtaining or retaining employment suitable to their abilities, or are unemployable. Increased War Veterans Allowance and Old Age Security rates, and extensions in the eligibility requirements of the WVA Act, enhanced the economic state of veterans dependent on these benefits. Building of suitable rental housing for elderly persons, sponsored by various levels of government and community organizations, resulted in a marked improvement in the accommodation available to many elderly veterans and their dependants.

Relaxation among employers of fixed hiring and retiring age policies was reflected during the winter unemployment among World War I veterans. At Mar. 31, 1958, 12,707 were registered for work, an increase of 2,118 over the same date of 1957. Most of these had unemployment insurance benefits, and WVA entitlement upon cessation of these benefits if re-employment placement did not occur. The Corps of Commissioners provided uniformed employment for 4,886 older veterans, 2,446 on Federal Government posts and the remainder on provincial, municipal, or private employer duties.

The Division reviews all rejected applications for War Veterans Allowance to ensure alternative services wherever possible, and works closely with all private and public bodies concerned with the welfare of the aged.

Assistance Fund.—Supplementary financial assistance is provided by the Assistance Fund to recipients under the War Veterans Allowance Act (*see* p. 298) who are in need. Assistance may be given as a continuing monthly grant in accordance with a formula which includes costs of shelter, fuel, food, clothing, personal care and certain health needs, or in single grants to meet needs not covered by the formula. During the two years ended Mar. 31, 1957, the maximum assistance available from the Fund was \$120 and \$144 per annum respectively to single and married recipients of WVA. These amounts were increased to \$240 and \$180 per year respectively as a result of the increases in rates and ceilings of the WVA Act which became effective on July 1, 1957. A further increase from \$180 to \$300 became effective Nov. 1, 1957, for married recipients of WVA.

Field work for the Fund is done almost entirely by the Welfare Services Branch which, through counselling and referral, also assists applicants in other ways. Since a monthly Assistance Fund grant may be continued without interruption until there is a change in the recipient's financial circumstances, the number of people assisted in any fiscal year is greater than the number applying during that period. Fund activity during the years ended Mar. 31, 1957 and 1958, was as follows:—

<i>Item</i>		<i>Years Ended—</i>	
		<i>Mar. 31, 1957</i>	<i>Mar. 31, 1958</i>
Persons assisted.....	No.	8,331	11,819
Persons applying during year.....	"	4,765	6,497
Applicants assisted.....	"	4,273	5,870
Proportion of applicants assisted.....	p.c.	90	90
Fund expenditures during year.....	\$	741,895	1,448,278
Proportion of expenditures given in monthly grants.....	p.c.	78	85
Persons in receipt of continuing monthly grants.....	No.	5,949	8,516

Education and Training.—Eligibility for training under the Veterans Rehabilitation Act and the Veterans Benefit Act, 1954, has lapsed except for disability pensioners and for a few programs delayed by personal illness. Still in training in universities at the end of March 1958 were 49 World War II veterans and 20 veterans of the Korean campaign. In vocational courses there were 19 and 12, respectively.

The Pensioners Training Regulations (P.C. 1955/134) provide training for pensioned veterans of World War I and for pensioned ex-members of Regular and Reserve Forces. Training must be designed to offset disability and to equip for available, suitable employment. At the end of the 1957-58 fiscal year seven such pensioners were in university courses and 12 were in vocational courses.

The Children of War Dead (Education Assistance) Act provides help with post-secondary school training for pensioned children of deceased veterans, whose deaths have been ruled by the Canadian Pension Commission to have been attributable to or incurred during war service. Eligible students who attend approved training institutions receive an allowance of \$25 a month if under age 21, and \$60 a month if over that age. Prescribed fees not exceeding \$500 for any one academic year may be paid on behalf of each student. Up to Mar. 31, 1958, 1,106 applications were approved under this Act.

Awaiting Returns Allowance.—The purpose of the Awaiting Returns Allowance is to assist in the maintenance of the veteran and his family during the early stages of a venture when the income therefrom is insufficient for that purpose. Because of the time limits imposed under the Veterans Rehabilitation Act, only veterans who settle under the Veterans' Land Act and who make application for the allowance within one year of such settlement are now eligible. The allowance is available for the period that the net income, plus the allowance, does not exceed the maximum rates—\$50 a month for a single veteran and \$70 a month for a married veteran (plus additional allowance for children)—up to 52 weeks.

Up to Mar. 31, 1958, 62,847 veterans, including 59 ex-members of the Special Force, were approved for the allowance and 90 p.c. were discontinued as established. The total amount expended on this benefit from inception to Mar. 31, 1958, was \$27,210,026 and at that date there were 147 active cases.

Vetcraft.—Sheltered employment for seriously disabled veterans was introduced into Canada in 1920 when the then Department of Soldiers' Civil Re-establishment and the Red Cross Society set up workshops for that purpose in several major Canadian centres. The purpose of the scheme was to provide temporary work, under nearly normal conditions, which would facilitate the return of these veterans to regular gainful employment.

The factories produced a wide variety of products which were sold in competition with similar products of industry. The enactment of the War Veterans Allowance Act in 1930 removed much of the need for sheltered employment as a welfare measure and, one by one, the shops closed. When World War II ended only those at Toronto and Montreal were in operation.

The manufacture of poppy emblems and memorial wreaths for Remembrance Day and other occasions was begun in 1923 and, since 1936, these products have constituted the entire output of the Vetcraft shops. Annual production is now worth around \$260,000 and provides full-time employment for 50 disabled veterans and widows in the Toronto and Montreal shops, plus part-time home assembly work for about 40 workers in Winnipeg, Regina and Calgary. The entire production is sold to Dominion Command of the Canadian Legion. The shops are under the administration of the Veterans Welfare Branch of the Department of Veterans Affairs.

Section 3.—Veterans Life Insurance

Returned Soldiers' Insurance.—This insurance, issued under the authority of the Returned Soldiers' Insurance Act, was available to veterans of World War I and no applications were accepted after Aug. 31, 1933. A brief summary of Returned Soldiers' Insurance appears in the 1956 Year Book. A change in the information contained therein was brought about by an amendment to the Act, effective Sept. 6, 1958. This amendment repealed the section which provided, in some instances, for the reduction of the amount payable on death in the event of an award to the insured's dependants under the Pension Act.

On Mar. 31, 1958, of the total of 48,319 policies issued there remained 10,714 policies in force with a face value of \$22,644,412. Of these policies, 2,912 were premium paying, 6,864 were paid-up, 142 had been converted to Extended Term Insurance, and 796 were being covered under the disability provision of the policy contracts. Terminations from 1920 to 1958 totalled 37,605, of which 11,955 were by death, 16,752 by surrender for the cash value and 8,898 by lapse, expiry or other mode of termination.

Veterans Insurance.—Eligibility to contract for Veterans Insurance, which had expired for many veterans of World War II, was extended by an amendment to the Veterans Insurance Act effective Sept. 6, 1958. They, together with veterans of the Korean action and certain other groups, may now apply for this insurance until Sept. 30, 1962. A brief summary of Veterans Insurance appears in the 1956 Year Book. An amendment, also effective Sept. 6, 1958, repealed a section of the Act which limited the payment of the proceeds of a policy in the event of death occurring during the premium paying term, and the award of a pension under the Pension Act on the insured's death.

Of 43,869 applications received up to Mar. 31, 1958, only 72 were declined for medical reasons. Of the 42,399 policies issued only 4.2 p.c. lapsed during the first two policy years, an unusually favourable lapse ratio. On Mar. 31, 1958, there were 28,778 policies in force with a face value of \$87,049,278. The death claim experience has followed a consistent pattern and is closely related to that observed for the general population.

3.—Death Claims Intimated, Years Ended Mar. 31, 1946-58, with Cumulative Totals 1921-45

Year Ended Mar. 31—	Returned Soldiers' Insurance		Veterans Insurance	
	No.	\$	No.	\$
1921-45.....	6,874	15,086,330	—	—
1946.....	331	636,100	3	11,500
1947.....	282	533,969	26	72,500
1948.....	304	597,985	54	169,500
1949.....	337	655,898	91	233,000
1950.....	402	679,621	108	318,580
1951.....	379	720,810	122	370,000
1952.....	418	817,559	178	461,500
1953.....	412	813,446	189	544,500
1954.....	421	821,930	187	495,500
1955.....	428	799,440	177	512,740
1956.....	434	813,743	216	590,868
1957.....	447	842,608	225	639,048
1958.....	486	902,324	254	687,145

Section 4.—Land Settlement and Home Construction

Veterans' Land Act.—The settlement of veterans of World War II and the Special Force under the Veterans' Land Act falls within four broad categories: farming or fishing, as a full-time occupation; part-time farming in rural or semi-rural areas to supplement income from other employment; settlement, in general on pioneer land, under agreements between the Federal Government and the provinces; and home building on city-size lots by veterans who have been approved for a loan under the National Housing Act and who act as their own contractors.

The amounts of financial assistance and the repayment terms differ for the various types of settlement. A veteran being settled as a full-time farmer on other than provincial land may obtain financial assistance under Part I of the Act to a maximum of \$6,000, including \$1,200 for livestock and farm equipment, and \$3,000 under Part III of the Act. Of the amount approved under Part I, exclusive of that for livestock and farming equipment, 10 p.c. is repayable as a down payment and 66⅓ p.c. is repayable with interest at 3½ p.c. over a maximum period of 25 years. The remaining 23½ p.c., together with the money expended for livestock and farm equipment, is not repayable provided the veteran complies with the terms and conditions of his contract for the first ten years thereof. Assistance under Part III is available on the basis of the veteran making a contribution of \$1 in cash or equivalent value for each \$2 lent, with the amount of the loan fully repayable with interest at the rate of 5 p.c.

Part-time farmers and commercial fishermen may obtain financial assistance up to \$6,000 under Part I and \$1,400 under Part III. The amounts repayable and the interest rates are similar to those for full-time farmers.

Veterans being settled on federal or provincial lands and Indian veterans being settled on Indian reserves may obtain financial assistance up to \$2,320, which is non-repayable provided they meet settlement terms and conditions for a period of ten years.

Under Part II of the Act, a qualified veteran who has been approved for a loan under the National Housing Act may receive financial and other assistance to build his own home on any lot suitable for a single family dwelling. The maximum financial assistance available is \$8,000 which, upon completion of the home, is repayable under a mortgage contract at the rate of interest chargeable under the National Housing Act.

The Veterans' Land Act Branch is organized into eight districts comprising 32 regional offices and 239 field areas across Canada. A resident field supervisor is responsible for each area and each supervisor has an average of 250 active accounts involving a gross initial public investment of close to \$1,500,000. There are also 92 construction supervisors

throughout the country whose main duties consist of giving practical advice and supervision to veteran-builders and inspecting the actual construction, remodelling or extension of homes and other buildings.

Each field supervisor is responsible for the sound appraisal of properties and the implementing of the Branch's supervised credit program through which veterans are assisted in the organizing and managing of their farms. A continuous and progressive on-the-job program of staff training is conducted to ensure that the supervisors keep abreast of the latest developments and newest techniques in land appraisal, farm organization, farm management and construction, with particular emphasis on the farm organization and credit requirements necessary for developing each unit to its highest and best use.

The Branch, through its field supervisors, commenced a comprehensive survey during the 1957-58 fiscal year of the progress and future credit requirements of full-time farming veterans already settled under the Act. A summary of the first 3,000 surveyed showed that the credit required to put their units on an economic basis averaged \$9,823. Of this, \$2,288 was the balance of the VLA contract debt still outstanding, \$839 represented credit presently extended from other sources, and \$6,696 was the amount of additional credit needed. As security for the total credit required by these veterans already settled, after expenditure of the additional credit needed, it was estimated that there would be resources available on the average of \$23,256.

While the summary of the first 3,000 surveyed disclosed the average total credit required to be \$9,823, the range was from nil to \$40,000 with the great majority being in the range of \$5,000 to \$20,000. Of the 3,000 surveyed, only 7.8 p.c. required total credit of over \$15,000, and only 2.1 p.c. required total credit in excess of \$20,000. The survey also indicated that, after expenditure of this additional credit and the reorganization of the enterprise where necessary, the average net annual income of these farmers, including allowances for rent of home and for farm perquisites, would be raised from the present average of \$3,291 to \$5,218, or by 58 p.c.

At the end of March 1958, 78,121 veterans had received financial assistance under the various types of settlement provided in the Act and a total of \$404,745,079 had been expended. Active accounts numbered 58,771 at Mar. 31, 1958, including 1,558 Indian veterans settled on Indian reserves whose accounts are administered by the Department of Citizenship and Immigration. During the fiscal year 1957-58, approvals for assistance were made on behalf of 2,820 veterans of World War II and the Special Force, including 443 for full-time farming, 1,690 for part-time farming, 28 for commercial fishing, 21 for settlement on Indian reserves, and 638 for home building on city-size lots. There were also 731 additional loans made to established full-time farmers under the provisions of Part III of the Act. These approvals involved the expenditure of more than \$20,000,000 in public funds during the year.

To Mar. 31, 1958, a total of 23,470 houses had been completed and another 1,424 were under construction. There were 1,656 houses completed in 1957-58, 1,414 new houses were started and another 911 veterans received approval to effect additions or improvements to their homes and other buildings.

A total of 4,260 appraisals were carried out during 1957-58, including 931 relating to applications for additional loans under Part III from full-time farming veterans already established. Also included were 386 appraisals made for other government departments and agencies, many of them involving properties of very considerable value with several approaching or exceeding \$1,000,000. From inception of operations under the Act, VLA field supervisors have made more than 100,000 appraisals.

During the fiscal year ended Mar. 31, 1958, \$12,497,869 became due under Veterans' Land Act contracts with veterans who paid, including prepayments, \$12,696,653. The excellent repayment record of the settled veterans is also shown by the fact that, on Mar. 31, 1958, less than 2 p.c. of the active accounts had arrears in excess of \$200, if on an annual or semi-annual payment basis, or \$100 if paying monthly. The total amount returned to the Treasury from current active accounts represents 106.5 p.c. of the total amount due

and owing in such accounts. Of the \$373,000,000 expended on behalf of 69,772 veterans established with repayable contracts in over 13 years of settlement operations up to Mar. 31, 1958, approximately 46 p.c. had been repaid. Included in this percentage was the amount of \$32,941,906, constituting conditional grants earned by 19,994 veterans who have fulfilled the terms of settlement for the first ten years of their contracts.

Of the \$117,589,077 expended relative to settlers under the Soldier Settlement Act, slightly over \$65,400,000, or 56 p.c., had been recovered up to Mar. 31, 1958, much of it through the resale of reverted properties.

One of the factors contributing to the very favourable repayment record of the VLA settlers is the fact that nearly 23,000 adopted one of the various pre-arranged repayment plans made available to them. There are 15,402 using the post-dated cheque plan, 6,416 have given orders on pensions or have made salary assignments and, at the end of March 1958, there were 1,017 share-of-crop agreements in effect in the spring wheat areas of the Prairie Provinces. In addition, 2,232 veterans have completely prepaid their contract debts and have only to fulfil the residence or personal operation requirements of their agreements for the remainder of their ten-year conditional grant periods in order to acquire title.

4.—Summary of Settlement and Expenditures under the Veterans' Land Act, as at Mar. 31, 1958¹

Item	Full-Time Farming	Small Holdings	Commercial Fishing	Provincial Lands	Federal Lands	Indian Reserves	City-Size Lots	Total
Approved for financial assistance..... No.	28,112	40,577	1,083	4,812	447	1,558	1,532	78,121
Amount of public funds expended..... \$	151,252,246	223,689,289	4,578,988	10,396,859	932,772	3,401,937	10,492,988	404,745,079
Approximate average expenditure per approval..... \$	5,376	5,515	4,219	2,180	2,087	2,184	6,849	5,181
Total conditional grants earned..... No.	10,765	6,755	290	2,141	43	—	—	19,994
Average amount of grant earned..... \$	2,091	1,468	1,767	2,294	2,311	—	—	—
Grants earned, title released..... No.	2,921	2,054	95	2,141	43	—	—	7,254

¹ Excludes details relative to sales of reverted or surplus property to civilian purchasers.

5.—Summary of House Construction under the Veterans' Land Act, as at Mar. 31, 1958

Item	Full-Time Farming	Small Holdings	Commercial Fishing	Provincial Lands	Federal Lands	City-Size Lots ¹	Total
	No.	No.	No.	No.	No.	No.	No.
Houses completed (from 1942).....	1,677	19,107	273	1,438	117	858	23,470
Houses under construction.....	72	724	8	45	6	569	1,424
Contracts let (work not yet started) ..	157	504	8	86	—	2	757
Net Approvals for New Housing.	1,906	20,335	289	1,569	123	1,429	25,651

¹ From August 1954.

Section 5.—Pensions Advocates

Veterans Bureau.—The Veterans Bureau, which has completed its twenty-seventh year of operation, is a branch of the Department of Veterans Affairs and has an office under the direction of a District Pensions Advocate in all districts in Canada in which offices of the Department are situated.

During the year ended Mar. 31, 1958, 6,076 claims were submitted to the Pension Commission, with 8,378 in preparation at the end of the year. These figures represent a slight increase over the 5,861 claims submitted during the previous fiscal year and 8,103 in preparation at the end of the year.

The duties of Pensions Advocates, most of whom are lawyers, are to assist former members of the Armed Forces and their dependants and former members of the various auxiliary organizations, such as merchant seamen, firefighters and others, in preparing and submitting claims to the Canadian Pension Commission. They also appear as counsel for applicants before the Appeal Boards of the Commission. No charge is made for the services of the Bureau.

Section 6.—Veterans Pensions

Previous issues of the Year Book contain information on the development of Canadian pension legislation, together with yearly statistics of numbers and liabilities.

The Pension Act was amended by 6 Eliz. II, c. 19, which received Royal Assent on Dec. 20, 1957. The amendments incorporated into the Act the increase in pensions and attendance allowances which had been authorized effective July 1, 1957, by Vote 670 of the Supplementary Estimates for the fiscal year ended Mar. 31, 1958. The major amendments which resulted in increased benefits are as follows:—

- (1) Provision was made for the continuation of pension until the end of the month in which death occurs on the death of a disability pensioner who was in receipt of additional pension for a wife, child, or parent, or a widow who was in receipt of pension for herself and a child.
- (2) The Commission is given discretion to award housekeeper's allowance for the children of a widower who had maintained a home for his dependent children during his lifetime and whose children had been awarded pension as a result of his death if a home continues to be maintained for them.
- (3) Clothing allowance for leg amputations is increased from \$72 to \$96 per annum, for arm amputations from \$30 to \$42 per annum, and the maximum clothing allowance for pensioners who wear appliances that cause excessive wear and tear of clothing is increased from \$72 to \$96 per annum.
- (4) Allowances are increased for funeral and burial expenses which may be paid when a disability pensioner has died and his estate is not sufficient to pay the expenses of his last illness and burial. Now, \$150 may be paid for funeral services, \$50 for cemetery charges and \$50 for last illness expenses. Previously, the rates were \$110, \$25 and \$50 respectively.
- (5) The prohibition against the award of pension on behalf of widows of World War I veterans who had been married on or after May 1, 1954, is removed.
- (6) The prohibition against payment of additional pension for wives of World War I pensioners married on or after May 1, 1954, is removed and additional pension with respect to such marriages can therefore be paid effective Oct. 1, 1957, or from the date of marriage, whichever is the later date. Additional pension on behalf of the children of such marriages may also be paid with effect from Oct. 1, 1957, if the birth took place prior to that date, or from date of birth.

The annual pension rates for a 100-p.c. disability for all ranks up to and including that of Lieutenant-Colonel and equivalent ranks* are:—

Pensioner.....	\$1,800
Wife.....	600
First child.....	240
Second child.....	180
Each subsequent child.....	144

* Rates are slightly higher if the pensioner or the deceased veteran held the rank of Colonel or higher rank.

For assessments lower than 100 p.c., the awards are proportionately less.

Attendance allowance, which is payable to a pensioner who is totally disabled and in need of attendance, and which varies from a minimum of \$480 to a maximum of \$1,800 depending on the amount of attendance required, is paid in addition to pension.

The annual rates of pension for widows and children of all ranks up to and including that of Lieutenant-Colonel and equivalent ranks* are:—

Widow.....	\$1,380
First child.....	480
Second child.....	360
Each subsequent child.....	288

The Civilian War Pensions and Allowances Act provides for the payment of pensions to, or on behalf of, persons who served in certain civilian groups that were closely associated with the World War II war effort, and who suffered injury or death as a result of such service. These groups include merchant seamen, saltwater fishermen, auxiliary services personnel, ferry pilots of the RAF Transport Command, firefighters who served in the United Kingdom, etc.

6.—Pensions in Force under the Pension Act, as at Mar. 31, 1958

Service	Disability		Dependant		Disability and Dependant	
	Pensions in Force	Liability	Pensions in Force	Liability	Pensions in Force	Liability
	No.	\$	No.	\$	No.	\$
World War I.....	52,521	40,859,007	15,012	19,629,235	67,533	60,488,242
World War II.....	103,082	66,403,510	17,982	19,712,382	121,064	86,115,892
Peacetime.....	962	530,500	426	691,914	1,388	1,222,414
Special Force.....	1,484	793,412	156	192,475	1,640	985,887
Totals.....	158,049	108,586,429	33,576	40,226,006	191,625	148,812,435

Section 7.—War Veterans Allowances

War Veterans Allowances are payable, in Canada only, to Canadian veterans of the Northwest Field Force, the South African War, World Wars I and II, and the Korean operation; to veterans of Commonwealth and Allied Forces who were domiciled in Canada at time of enlistment, or alternatively, have resided in Canada for 10 years; and to widows or orphans of eligible veterans. To be eligible, a veteran must have served in a theatre of actual war and, if not, he must be in receipt of a pension for disability incurred on or aggravated by service of 5 p.c. or more of total disability or have accepted a final payment in lieu of pension of 5 p.c. or more. Other veterans who did not serve in a theatre of actual war and who are non-pensioners but who served in both World Wars I and II and were honourably discharged from both services are also eligible.

The development of these allowances is reported in previous issues of the Year Book; the main provisions of the present Act are outlined in the 1956 edition at pp. 313-314.

In 1957, Parliament approved certain increases in the rates of allowance payable and income ceilings, effective July 1, 1957. Additional changes became effective Nov. 1, 1957, including further increases in the rates of allowance and income ceilings; a change in the requirement of 20 years residence in Canada to 10 years for Commonwealth and Allied Forces; and establishing eligibility from a service standpoint for Canadian veterans who served in England during World War I for at least 365 days prior to Nov. 12, 1918.

* Rates are slightly higher if the pensioner or the deceased veteran held the rank of Colonel or higher rank.

The rates of allowances payable and income ceilings now in effect are as follows:—

<i>Recipient</i>	<i>Monthly Maximum Allowance</i>	<i>Annual Income Ceiling</i>
	\$	\$
Veterans and widow(er)s, single status.....	70	1,080
Veterans and widow(er)s, married status.....	120	1,740
Veterans with blind spouse.....	120	1,860
One orphan.....	40	720
Two orphans of one veteran.....	70	1,200
Three or more orphans of one veteran.....	85	1,440

The number of veterans and others in receipt of allowances at the close of each of the fiscal years 1952-58 and the amounts of allowances paid are as follows:—

<i>As at Mar. 31—</i>	<i>Veterans in Receipt of Allowances</i>	<i>Others in Receipt of Allowances</i>	<i>Total in Receipt of Allowances</i>	<i>Expenditure</i>
	No.	No.	No.	\$
1952.....	29,137	9,602	38,739	23,544,760
1953.....	30,005	10,607	40,612	27,114,849
1954.....	30,650	11,737	42,387	26,486,988
1955.....	32,471	12,883	45,354	27,702,077
1956.....	37,930	14,257	52,187	38,648,988
1957.....	39,691	15,502	55,193	40,975,483
1958.....	42,705	17,242	59,947	47,763,671

During the 1957-58 fiscal year, 63,078 cases were reviewed by the 18 District Authorities across Canada, and 19,794 by the War Veterans Allowance Board in Ottawa, so that changes in the financial, physical or domestic circumstances of the recipients concerned might be reflected in the allowance being paid. Of the 366 decisions appealed during the year, 49 were allowed and 317 disallowed.

Section 8.—Veterans Commissions and Boards

Canadian Pension Commission.—The Canadian Pension Commission is a statutory body charged with the administration of the Pension Act and the Civilian War Pensions and Allowances Act. The members of the Commission are appointed by the Governor in Council who may also impose upon the Commission duties in respect of any grants in the nature of pensions, etc., made under any statute other than the Pension Act. It reports to Parliament through the Minister of Veterans Affairs.

It is the responsibility of the Commission to adjudicate on claims for injury or disease resulting in disability or death, incurred during service with the Canadian Navy, Army or Air Force during war or peacetime. The Commission may also supplement certain awards of pension made by the British or Allied Governments (*see* 1956 Year Book, p. 304).

The Commission's representatives, called Pension Medical Examiners, are located in most of the district offices of the Department of Veterans Affairs across the country.

War Veterans Allowance Board.—The War Veterans Allowance Board is a statutory body responsible for the administration of the War Veterans Allowance Act. The members are appointed by the Governor in Council and the Board reports to Parliament through the Minister of Veterans Affairs.

The administration of the Act has been almost completely decentralized through 18 District Authorities located in the district offices of the Department of Veterans Affairs across Canada. These Authorities make the initial decisions on WVA applications and arrange for the necessary investigations to be made by officers of the Veterans Welfare Services Branch.

The Board, which is located in Ottawa, defines policy, standardizes administrative procedures and reviews decisions of the District Authorities, either to adjudicate appeals from decisions of the Authorities or to assure the consistent administration of the Act throughout Canada.

Imperial War Graves Commission.—All Commonwealth Governments are members of the Commission, incorporated by Royal Charter in 1917, and are represented by their High Commissioners in London. The Commission is entrusted with the marking and maintenance, in perpetuity, of the graves of those of the British Empire and Commonwealth Armed Forces who lost their lives between Aug. 4, 1914 and Aug. 31, 1921, and between Sept. 3, 1939 and Dec. 31, 1947. The Commission erects memorials to commemorate those with no known grave. The Minister of Veterans Affairs is the Agent of the Commission in Canada and the office of the Secretary-General of the Canadian Agency is in the Veterans Affairs Building, Ottawa.

The area of responsibility of the Canadian Agency is the Continent of North America but it has also certain duties of inspection in Argentina, Bahamas, Barbados, Bermuda, Brazil, British Guiana, British Honduras, Chile, Costa Rica, Cuba, Falkland Islands, French West Indies, Guatemala, Hawaiian Islands, Jamaica, Leeward Islands, Netherlands Antilles, Panama Canal Zone, Peru, Puerto Rico, Trinidad, Uruguay, and Windward Islands.

In North America the Agency is responsible for about 13,000 War Graves in over 2,000 cemeteries. Approximately 3,300 servicemen of both wars, missing in operations while based in North America, are commemorated on the memorials erected at Victoria, B.C., and at Halifax, N.S.

Construction started late in 1958 on a memorial in Ottawa commemorating by name approximately 800 Commonwealth Air Forces servicemen who lost their lives in the Second World War while on operations from bases in Canada and the United States, and who have no known grave.

CHAPTER VII.—CRIME AND DELINQUENCY*

CONSPECTUS

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NOTE.—The interpretation of the symbols used in the tables throughout the Year Book will be found facing p. 1 of this volume.

Section 1.—Canadian Criminal Law and Procedure†

The system under which justice is administered in a State is never rigid. To have it so would be neither expedient nor indeed possible. A judicial system must grow and adapt itself to the requirements of the people and the exact limits of the powers of different legislative bodies require continued definition.

The criminal law of Canada has as its foundation the criminal common law of England built up through the ages and consisting first of customs and usages, and later expanded by principles enunciated by generations of judges. There is no statutory declaration of the introduction of English criminal law into those parts of Canada that are now the Provinces of New Brunswick, Nova Scotia and Prince Edward Island. Its introduction there depends upon a principle of the common law itself by which English law was declared to be in force in uninhabited territory discovered and planted by British subjects, except in so far as local conditions made it inapplicable. The same may be said of Newfoundland although the colony dealt with the subject in a statute of 1837. In Quebec its reception depends upon a Royal Proclamation of 1763 and the Quebec Act of 1774. In each of the other provinces and in the Yukon and Northwest Territories the matter has been dealt with by statute.

The judicial systems of the provinces as they exist today are based upon the British North America Act of 1867. Sect. 91 of the Act provides that "The exclusive legislative authority of the Parliament of Canada extends to . . . the criminal law, except the constitution of courts of criminal jurisdiction but including the procedure in criminal matters". By Sect. 92 (14), the legislature of the province exclusively may make laws in relation to

* Except as otherwise credited, this Chapter has been revised in the Judicial Section, Health and Welfare Division, Dominion Bureau of Statistics.

† Prepared by the Criminal Law Section, Department of Justice, Ottawa.

"the administration of justice in the province, including the constitution, maintenance and organization of provincial courts, both of civil and criminal jurisdiction and including procedure in civil matters in its courts". The Parliament of Canada may, however, (Sect. 101) establish any additional courts for the better administration of the laws of Canada. It should be noted that the Statute of Westminster, 1931, effected important changes particularly by abrogating the Colonial Laws Validity Act, 1865 (U.K.), and confirming the right of a dominion to make laws having extraterritorial operation. Particulars of the federal judiciaries are given in Chapter II, pp. 76-78 and provincial judiciaries are dealt with briefly at p.78, more detailed information on provincial judiciaries is given in the 1954 Year Book, pp. 48-55.

At the time of Confederation each of the colonies affected had its own body of statutes relating to the criminal law. In 1869 in an endeavour to assimilate them into a uniform system applicable throughout Canada, Parliament passed a series of Acts some of which dealt with offences of special kinds and others with procedure. Most notable of the latter was the Criminal Procedure Act, but other Acts provided for the speedy trial or summary trial of indictable offences, the powers and jurisdiction of justices of the peace in summary conviction matters and otherwise, and the procedure in respect of juvenile offenders.

Codification of the criminal law through a Criminal Code Bill founded on the English draft code of 1878, Stephen's *Digest of Criminal Law*, Burbidge's *Digest of the Canadian Criminal Law*, and the relevant Canadian statutes was brought about by the Minister of Justice, Sir John Thompson, in 1892. This Bill became the Criminal Code of Canada and came into force on July 1, 1893. It must be remembered, however, that the Criminal Code was not exhaustive of the criminal law. It was still necessary to refer to English law in certain matters of procedure and it was still possible to prosecute for offences at common law. Moreover, Parliament has declared offences against certain other Acts, e.g., the Opium and Narcotic Drug Act, to be criminal offences and the same was done in the Defence of Canada Regulations and the Wartime Prices and Trade Board Regulations (neither now in force) promulgated under the authority of the War Measures Act.

It is often difficult to distinguish between 'law' and 'procedure'. Procedure may be interpreted to relate simply to the organic working of the courts but, in a wider sense, it may also affect the rights or alter the legal relations arising out of any given state of facts. For present purposes it will be useful to note that writers on jurisprudence describe law as being substantive or adjective. "Substantive law is concerned with the ends which the administration of justice seeks; procedural (adjective) law deals with the means and instruments by which these ends are to be obtained."* With reference to the criminal law the former may be taken to include the provisions concerning criminal responsibility, the definition of 'offences' and the punishment for those offences, and the latter to include provisions for enforcement, e.g., powers to search and to arrest, for the modes of trial and for the proof of facts. Broadly speaking, the Criminal Code observes the distinction although it might appear that the provisions for preventive detention of habitual criminals and criminal sexual psychopaths partake of the nature of both classes.

An examination and study of the Criminal Code was authorized by Order in Council dated Feb. 3, 1949, and the Commission assigned the task of revising the Code presented its report with a draft Bill in February 1952. After coming before successive sessions of Parliament it was finally passed on June 15, 1954, and the new Criminal Code (2-3 Eliz. II, c. 51) came into effect on Apr. 1, 1955. A short outline of the system that existed under the repealed Code together with the major revisions effected by the new Code is given in the 1955 Year Book, pp. 295-298.

Since the Code came into force amendments have been few and of minor importance. An amendment relating to race meetings was passed in 1955 and in 1956 it was provided that motions for leave to appeal to the Supreme Court of Canada in criminal cases should be heard by a quorum (at least five) of the judges of that Court instead of by a single judge.

* Salmond on *Jurisprudence*, 7th Edition, p. 496.

The Parole Act (S.C. 1958, c. 38) was passed to implement certain recommendations of the Committee appointed in 1953 under the chairmanship of the Hon. Mr. Justice Fauteux, to inquire into the principles and procedure followed in the Remission Service of the Department of Justice. The Act repeals the Ticket of Leave Act and provides for the establishment of a National Parole Board. It is to come into force on proclamation and will have considerable effect on the administration of the penal provisions of the criminal law. However, it does not directly affect the Criminal Code except in so far as it will empower the Board to revoke or suspend a sentence of whipping or an order made under the Criminal Code prohibiting a person from operating a motor vehicle, and will transfer to the Board the powers, functions and duties of the Minister of Justice in relation to the review of sentences of preventive detention.

Section 2.—Adult Offenders and Convictions

The main interest in adult criminal statistics is concerned with those persons guilty of the more serious crimes. Such offenders are fewer than those who commit summary conviction offences but, from the standpoint of the protection of society, they are more important.

Statistics of indictable crimes are based on *persons*. When a person is prosecuted at the same hearing for several offences, one of those offences is selected for tabulation. The rule followed is to select the offence for which the proceedings were carried to the furthest stage—to conviction and sentence if the prisoner were tried on several charges; if there were several convictions, the offence selected is that for which the heaviest punishment was awarded; if the final result of proceedings on two or more charges were the same, the most serious offence (as measured by the maximum penalty allowed by the law) appears in the tables. Where a person was prosecuted for one offence and convicted of another (e.g., charged with murder and convicted of manslaughter), the case appears only under the offence for which he was convicted. Statistics of summary conviction offences are based on *convictions*.

The figures include only cases finally determined within the year. Those not entirely disposed of within the year (e.g., tried but sentence postponed) are held over for the next year's report.

The new Criminal Code, which became law in 1954 (S.C. 1953-54, c. 51), necessitated the alteration of certain statistical classifications. For instance, in the classification of indictable offences regroupings have been made and some items added and others dropped. Also, indictable offences under the Criminal Code are now shown separately from those under federal statutes. Summary convictions are now classified under offences under the Criminal Code, federal statutes, provincial statutes and municipal by-laws, and methods of trial have been arranged to conform with the provisions of the new Criminal Code. Thus, any comparisons between these data for 1956 and 1957 and the data published for previous years should be made with care. Each table in the following statistical analysis in which revision of classification occurs carries a headnote to that effect.

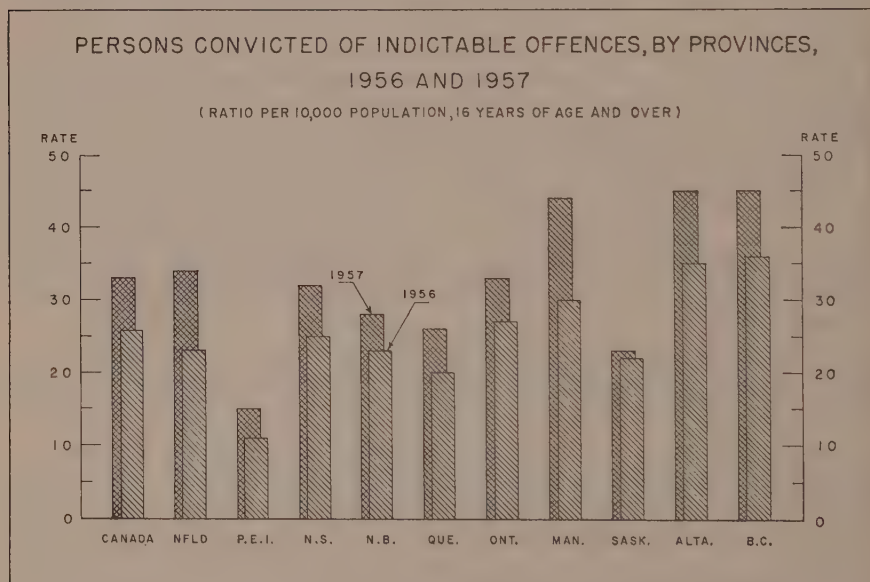
Subsection 1.—Adults Convicted of Indictable Offences

During 1957 the courts of Canada dealt with 35,458 adults charged with 61,964 indictable offences, of whom 31,765 were found guilty of 54,900 offences. These figures show an increase over those of 1956 when 30,838 adults were charged with 52,541 indictable offences and 27,413 were found guilty of 45,913 offences.

1.—Persons Convicted of Indictable Offences, with Ratio per 10,000 Population 16 Years of Age or Over, by Province, 1956 and 1957

Province or Territory	Persons Convicted		Persons Convicted per 10,000 Population ¹	
	1956	1957	1956	1957
	No.	No.	No.	No.
Newfoundland.....	540	703	23	34
Prince Edward Island.....	68	78	11	15
Nova Scotia.....	1,119	1,234	25	32
New Brunswick.....	763	827	23	28
Quebec.....	5,710	6,678	20	26
Ontario.....	10,126	11,495	27	33
Manitoba.....	1,707	2,246	30	44
Saskatchewan.....	1,300	1,176	22	23
Alberta.....	2,540	3,045	35	45
British Columbia.....	3,491	4,216	36	45
Yukon and Northwest Territories.....	49	67	—	—
Canada.....	27,413	31,765	26	33

¹ Per 10,000 population 16 years of age and over excluding the Yukon and Northwest Territories.



Indictable offences are divided into the main sources of the criminal law—the Criminal Code and Federal Statutes. Indictable offences under the Criminal Code are grouped into six classes as shown in Table 2. In 1957 persons convicted of assaults of various kinds and obstructing police represented 78.5 p.c. of Class I, which covers offences against the person. In that year 8 persons were convicted of murder, 10 of attempted murder and 110 of manslaughter as compared with 10, 4 and 84 respectively in 1958.

Classes II to V deal with offences against property. Thefts predominate among the offences in these classes, and breaking and entering and robbery, serious crimes which involve acts of violence, are the next most numerous. In Class VI, which includes miscellaneous offences, the most numerous convictions are for offences connected with the improper operation of motor vehicles. In 1957 there were 400 offenders under the Opium

and Narcotic Drug Act, of whom 274 were convicted of possessing heroin and 84 of trafficking; 285 were males and 356 were born in Canada. British Columbia courts convicted 64.5 p.c. of the drug offenders and Ontario courts 26.8 p.c.

2.—Adults Charged and Convicted of Indictable Offences, by Class of Offence, 1956 and 1957

NOTE.—Classifications in this table have been changed in accordance with alterations in the Criminal Code (see p. 303) and are therefore not strictly comparable with those published for previous years.

Offence	1956			1957			Increase or Decrease in Persons Convicted
	Adults Charged	Adults Convicted		Adults Charged	Adults Convicted		
		M.	F.		M.	F.	
	No.	No.	No.	No.	No.	No.	p.c.
Criminal Code							
Class I. — Offences against the Person	6,137	4,723	222	6,326	4,915	235	+ 4.1
Abduction and kidnapping	44	28	1	59	45	1	+58.6
Assault, causing bodily harm, common, on police and obstruction	4,305	3,385	151	4,358	3,482	156	+ 3.0
Offences against females ¹	833	611	27	819	601	21	- 2.5
Manslaughter, motor manslaughter and murder	189	89	5	233	115	3	+25.5
Attempted murder, causing bodily harm and danger	170	109	11	177	110	16	+ 5.0
Duties tending to preservation of life	81	67	1	55	49	3	-23.5
Other offences against the person	515	434	26	625	513	35	+19.1
Class II. — Offences against Property with Violence	4,991	4,503	77	6,062	5,507	81	+22.0
Breaking and entering a place, extortion and robbery	4,991	4,503	77	6,062	5,507	81	+22.0
Class III. — Offences against Property without Violence	12,936	10,859	862	15,911	13,535	998	+24.0
Fraud and false pretences	1,837	1,480	123	2,083	1,674	151	+14.0
Having in possession	1,065	882	44	1,402	1,162	49	+31.0
Theft	10,034	8,497	695	12,426	10,699	798	+25.1
Class IV. — Malicious Offences against Property	599	489	27	669	543	32	+11.4
Arson and other fires	110	78	7	100	64	10	-12.9
Other interference with property	489	411	20	569	479	22	+16.2
Class V. — Forgery and Other Offences Relating to Currency	728	621	71	823	721	63	+13.3
Forgery and uttering forged documents	714	609	70	812	711	63	+14.0
Offences relating to currency	14	12	1	11	10	—	-23.1
Class VI. — Other Offences	4,981	4,353	188	5,123	4,438	237	+ 3.0
Criminal negligence in operation of motor vehicles	203	166	2	155	133	1	-20.2
Driving while ability to drive is impaired	2,259	2,132	26	2,056	1,902	25	-10.7
Driving while intoxicated	421	383	2	268	244	1	-36.4
Gaming, betting and lotteries	402	319	1	852	728	66	+148.1
Keeping bawdy houses	145	28	74	133	41	63	+ 2.0
Various other offences	1,551	1,325	83	1,659	1,390	81	+ 4.5
Totals, Criminal Code	30,372	25,548	1,447	34,914	29,659	1,646	+16.0
Federal Statutes							
Opium and Narcotic Drug Act	428	263	119	482	285	115	+ 4.7
Other Statutes	38	26	10	62	59	1	+67.0
Totals, Federal Statutes	466	289	129	544	344	116	+10.0
Grand Totals	30,838	25,837	1,576	35,458	30,003	1,762	+15.9

¹ Includes abortion, indecent assault, sexual intercourse and attempt, incest, procuring, rape, attempted rape and seduction.

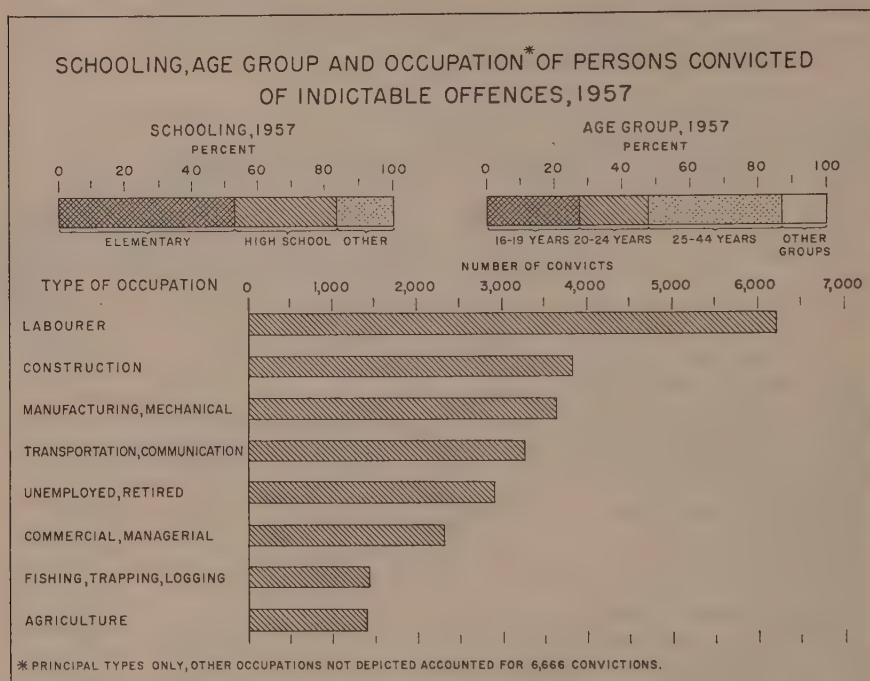


Table 3 shows that in 1957, 54.6 p.c. of the persons convicted of indictable offences had not gone beyond elementary school grades in education, 47.8 p.c. were 24 years of age or younger, 9.7 p.c. were 45 years of age or over, and 75.3 p.c. lived in urban centres. Of these offenders, 94.5 p.c. were males, 91.3 p.c. were born in Canada, 60.7 p.c. were unmarried, 19.6 p.c. were recorded as labourers and 9.2 p.c. had no remunerative employment.

3.—Persons Convicted of Indictable Offences classified by Occupation, Marital Status, Sex, Birthplace, etc., 1956 and 1957

Item	1956	1957	Item	1956	1957
No.	No.	No.	No.	No.	No.
Total Convictions.....	27,413	31,765	TYPE OF OCCUPATION—concl.		
TYPE OF OCCUPATION			Public and protective.....	51	73
Agriculture.....	1,282	1,415	Student.....	862	1,200
Armed Services.....	522	510	Other.....	77	84
Clerical.....	1,083	1,074	Transportation and communica-		
Commercial and managerial.....	1,781	2,318	tions.....	2,863	3,286
Construction.....	3,195	3,847	Unemployed and retired (incl.		
Finance and insurance.....	54	47	housewives).....	2,017	2,910
Fishing, trapping and logging.....	1,295	1,441	Not given.....	1,182	1,248
Labourer.....	5,839	6,226	MARITAL STATUS		
Manufacturing and mechanical....	3,098	3,656	Single.....	15,717	19,276
Mining.....	644	669	Married.....	9,262	9,931
Domestic.....	584	630	Widowed.....	263	324
Personal.....	682	819	Divorced.....	176	229
Professional.....	302	312	Separated.....	861	929
			Not given.....	1,134	1,076

3.—Persons Convicted of Indictable Offences classified by Occupation, Marital Status, Sex, Birthplace, etc., 1956 and 1957—concluded

Item	1956	1957	Item	1956	1957
No.	No.	No.	No.	No.	No.
SEX			BIRTHPLACE		
Male.....	25,837	30,003	Canada.....	24,268	29,014
Female.....	1,576	1,762	British Isles and other Common-wealth.....	627	721
EDUCATIONAL STATUS			United States.....	283	268
Unable to read or write.....	460	468	Europe.....	915	1,235
Elementary.....	14,646	16,852	Asia.....	51	74
High school.....	8,815	10,679	Other foreign countries.....	11	11
Superior.....	696	554	Not given.....	1,258	442
Grade not stated.....	387	743			
Not given.....	2,409	2,469	RESIDENCE		
AGE			Urban centres.....	20,744	23,921
16 to 19 years.....	6,517	8,669	Rural districts.....	6,102	6,593
20 to 24 years.....	5,848	6,526	Indeterminate.....	219	541
25 to 44 years.....	11,223	12,423	Not given.....	348	710
45 years or over.....	2,704	3,076			
Not given.....	1,121	1,071			

Female Offenders.—There were 1,762 female offenders convicted of indictable offences in 1957, 37.7 p.c. of whom were in Ontario, 15.4 p.c. in British Columbia and 15.0 p.c. in Quebec. Of the total females convicted in that year, 48.1 p.c. were found guilty of theft and having in possession, 9.0 p.c. of various assaults and 8.6 p.c. of false pretences and fraud.

4.—Females Convicted of Indictable Offences, by Province, 1956 and 1957

Province or Territory	Females Convicted		Females Convicted to Total Convictions	
	1956	1957	1956	1957
	No.	No.	p.c.	p.c.
Newfoundland.....	28	45	5.2	6.4
Prince Edward Island.....	6	1	8.8	1.3
Nova Scotia.....	44	55	3.9	4.5
New Brunswick.....	8	29	1.0	3.5
Quebec.....	237	265	4.1	4.0
Ontario.....	567	665	5.6	5.8
Manitoba.....	158	222	9.3	9.9
Saskatchewan.....	82	51	6.3	4.3
Alberta.....	190	154	7.5	5.1
British Columbia.....	253	271	7.2	6.4
Yukon and Northwest Territories.....	3	4	6.1	6.0
Canada.....	1,576	1,762	5.7	5.5

Multiple Convictions.—Table 5 shows the number of persons having more than one conviction at a court appearance for the years 1953-57. Multiple convictions occur most often in cases of forgery and uttering, false pretences, theft, having in possession, and breaking and entering.

5.—Persons Convicted of More than One Offence at the Time of Trial compared with Persons Convicted of One Offence, 1953-57

Item	1953	1954	1955	1956	1957
	No.	No.	No.	No.	No.
Persons Convicted of—					
2 offences.....	3,248	3,265	3,280	3,463	4,308
3 offences.....	971	1,713	1,089	1,101	1,337
4 offences.....	437	256	523	607	826
5 offences.....	259	154	306	306	394
6 offences.....	222	89	189	209	259
7 offences.....	122	58	126	119	146
8 offences.....	92	44	113	108	159
9 offences.....	67	27	91	83	100
10 offences.....	52	54	56	69	87
11 to 20 offences.....	179	194	200	252	288
21 offences and over.....	57	65	92	76	95
Totals, Convicted of More than One Offence.....	5,706	5,919	6,070	6,393	7,999
Totals, Convicted of One Offence.....	23,861	24,929	22,203	21,020	23,766
Grand Totals.....	29,567	30,848	28,273	27,413	31,765

Disposition of Cases and Recidivism.—Of all suspects before the courts for indictable offences in 1957, 89.6 p.c. were adjudged guilty; the convictions against males (89.8 p.c.) constituted a higher percentage than those against females (86.3 p.c.) and varied considerably between provinces. Prince Edward Island and New Brunswick showed the highest percentage (97.5 p.c.) of convictions and Nova Scotia the lowest (84.4 p.c.).

6.—Persons Charged and Convictions for Indictable Offences, by Province, 1956 and 1957

Province or Territory	1956			1957		
	Charges	Convictions		Charges	Convictions	
	No.	No.	p.c.	No.	No.	p.c.
Newfoundland.....	565	540	95.6	723	703	97.2
Prince Edward Island.....	68	68	100.0	80	78	97.5
Nova Scotia.....	1,293	1,119	86.5	1,462	1,234	84.4
New Brunswick.....	784	763	97.3	848	827	97.5
Quebec.....	6,445	5,710	88.6	7,394	6,678	90.3
Ontario.....	11,875	10,126	85.3	13,319	11,495	86.3
Manitoba.....	1,779	1,707	96.0	2,309	2,246	97.3
Saskatchewan.....	1,366	1,300	95.2	1,244	1,176	94.5
Alberta.....	2,714	2,540	93.6	3,274	3,045	93.0
British Columbia.....	3,900	3,491	89.5	4,736	4,216	89.0
Yukon and Northwest Territories.....	49	49	100.0	69	67	97.1
Canada.....	30,838	27,413	88.9	35,458	31,765	89.6

In 1957, 44.3 p.c. of the convicted persons had no previous conviction, 9.7 p.c. had previously been found guilty of one offence and 20.6 p.c. had two or more earlier convictions. Court records for the other 25.4 p.c. were not obtained.

7.—Persons Charged with Indictable Offences, Disposition of Cases and Recidivism, 1956 and 1957

Item	1956	1957	Item	1956	1957
	No.	No.		No.	No.
Charges.....	30,838	35,458	Convictions of males.....	25,837	30,003
Acquittals.....	3,316	3,564	Convictions of females.....	1,576	1,762
Disagreement of jury.....	11	5	First convictions.....	13,015	14,070
Stay of proceedings.....	53	69	Second convictions.....	2,267	3,083
No Bill.....	9	18	Reiterated convictions.....	5,264	6,557
Detention because of insanity.....	36	37	Not given.....	6,867	8,055

Sentences.—In 1957, 28.2 p.c. of the persons convicted of indictable offences were fined, 32.4 p.c. were sent to gaol without option of fine, 6.1 p.c. were committed to reformatories and 7.3 p.c. to penitentiaries, and 26 p.c. were given suspended sentences with or without probation. One habitual criminal was given preventive detention, one person received a life sentence and eight were given the death penalty. The proportions in 1957 were much the same as in recent preceding years.

8.—Sentences Given for Indictable Offences, by Province, 1956 and 1957

Year and Sentence	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon and N.W.T.	Canada
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
1956												
Option of fine.....	168	16	384	150	1,750	2,523	505	551	879	1,069	3	7,998
Gaol—												
Under one year.....	186	24	280	372	1,728	2,487	424	411	838	879	34	7,663
One year or over.....	33	3	13	7	148	407	146	85	236	305	3	1,386
Reformatory.....	1	—	9	5	88	1,287	29	—	—	259	—	1,678
Penitentiary—												
Two years and under five.	12	2	125	61	498	510	79	71	145	236	8	1,747
Five years and under ten..	4	—	—	4	77	75	10	3	17	34	—	224
Ten years and under four-	—	—	—	1	12	8	—	1	4	8	—	34
teen.....	—	—	—	—	5	3	1	1	1	12	—	23
Fourteen years or over....	—	—	—	—	3	1	—	—	—	1	—	5
Life.....	—	—	—	—	—	—	—	—	—	—	—	—
Death.....	—	—	—	1	2	3	—	—	1	3	—	10
Suspended sentence without probation.....	84	18	160	152	652	847	443	144	359	258	1	3,118
Suspended sentence with pro- bation.....	52	5	148	10	747	1,975	70	33	60	427	—	3,527
Totals, 1956.....	540	68	1,119	763	5,710	10,126	1,707	1,300	2,540	3,491	49	27,413
1957												
Option of fine.....	281	15	368	292	1,940	2,749	708	449	954	1,203	8	8,967
Gaol—												
Under one year.....	238	34	324	218	1,862	2,780	583	418	1,151	1,080	37	8,725
One year or over.....	24	1	17	24	179	413	185	74	302	337	3	1,559
Reformatory.....	—	—	3	—	109	1,417	36	1	—	375	—	1,941
Penitentiary—												
Two years and under five.	10	9	143	88	645	517	80	28	171	273	11	1,975
Five years and under ten..	—	1	6	8	56	87	8	3	17	79	—	265
Ten years and under four-	1	—	1	—	16	20	1	1	4	15	—	59
teen.....	1	—	2	1	9	7	2	—	3	9	1	35
Fourteen years or over....	—	—	—	—	—	—	1	—	—	—	—	1
Life.....	—	—	—	—	—	—	—	—	—	—	—	—
Death.....	—	—	—	1	—	3	—	—	—	4	—	8

8.—Sentences Given for Indictable Offences, by Province, 1956 and 1957—concluded

Year and Sentence	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon and N.W.T.	Canada
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
1957—concluded												
Suspended sentence without probation.....	59	13	117	157	1,417	900	439	88	324	219	1	3,734
Suspended sentence with probation.....	89	5	253	38	445	2,602	203	114	119	622	6	4,496
Totals, 1957.....	703	78	1,234	827	6,678	11,495	2,246	1,176	3,045	4,216	67	31,765

Court Proceedings.—In 1957, 65.1 p.c. of the persons tried by a judge and jury were convicted; trials by a judge without a jury brought convictions in 72.3 p.c. of the cases so tried; trials by a magistrate with consent ended in convictions in 91.5 p.c.; and those by a magistrate who has absolute jurisdiction, in 90.6 p.c. of the cases. Of the persons charged with an indictable offence, 92.8 p.c. were tried by magistrate or juvenile and family courts, 4.5 p.c. in county and district courts and 2.7 p.c. in higher courts.

9.—Method of Trial of Persons Charged with Indictable Crimes, showing Disposition of Cases, by Sex and by Province, 1956 and 1957

NOTE.—Classifications in this table have been changed in accordance with alterations in the Criminal Code (see p. 303) and are therefore not strictly comparable with those published for previous years.

Year and Method of Trial	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon and N.W.T.	Canada
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
1956												
By Judge and Jury—												
Conviction.....M.	11	—	19	9	66	191	26	19	26	80	3	450
F.	—	—	—	—	3	14	1	2	3	5	—	28
Acquittal.....M.	3	—	18	7	27	83	10	9	2	40	—	199
F.	—	—	1	—	3	8	1	1	—	2	—	16
Detention because of insanity.....M.	—	—	—	—	3	4	—	—	—	1	—	8
F.	—	—	—	—	—	—	1	—	—	—	—	1
Disagreement of jury..M.	—	—	2	—	1	14	—	1	—	9	—	27
Stay of proceedings.....F.	—	—	—	—	1	—	—	—	—	—	—	1
No Bill.....	—	—	—	—	—	—	—	—	—	—	—	—
By a Judge without Jury—												
Conviction.....M.	—	3	36	2	201	340	31	43	159	66	4	885
F.	—	1	2	—	14	11	1	1	7	5	—	42
Acquittal.....M.	—	—	6	1	87	137	14	12	35	25	—	317
F.	—	—	—	—	9	8	1	—	1	6	—	25
Detention because of insanity.....M.	—	—	—	—	1	—	—	—	—	—	—	1
Stay of proceedings.....M.	—	—	—	—	—	—	1	—	—	6	—	7
By a Magistrate with Consent—												
Conviction.....M.	359	39	578	552	3,442	6,620	848	713	1,272	1,715	30	16,168
F.	15	3	24	7	99	345	62	37	80	139	3	814
Acquittal.....M.	15	—	92	12	363	880	9	28	75	164	—	1,638
F.	—	—	6	—	25	77	—	2	8	19	—	137
Detention because of insanity.....M.	—	—	—	—	6	—	—	—	3	—	—	9
F.	—	—	—	—	—	2	—	1	—	—	—	3
Stay of proceedings.....M.	—	—	—	—	—	—	5	—	—	21	—	26
F.	—	—	—	—	—	—	1	—	—	5	—	6

9.—Method of Trial of Persons Charged with Indictable Crimes, showing Disposition of Cases, by Sex and by Province, 1956 and 1957—concluded

Year and Method of Trial	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon and N.W.T.	Canada
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
1956—concluded												
By a Magistrate, Absolute Jurisdiction—												
Conviction.....M.	142	20	441	193	1,764	2,408	644	443	893	1,377	9	8,334
F.	13	2	18	1	121	197	94	42	100	104	—	692
Acquittal.....M.	7	—	43	1	181	477	23	11	43	99	—	885
F.	—	—	5	—	17	57	2	1	7	10	—	99
Detention because of insanity.....M.	—	—	1	—	9	2	—	—	—	—	—	12
F.	—	—	—	—	2	—	—	—	—	—	—	2
Stay of proceedings.....M.	—	—	—	—	—	—	4	—	—	2	—	38
Totals, Persons Charged, 1956.....	565	68	1,292	785	6,445	11,875	1,779	1,366	2,714	3,900	49	30,8—
Totals, Persons Convicted, 1956.....	540	68	1,118	764	5,710	10,126	1,707	1,300	2,540	3,491	49	27,413
1957												
By Judge and Jury—												
Conviction.....M.	11	—	22	18	104	213	36	14	22	78	8	526
F.	—	—	—	—	6	13	2	—	4	—	—	25
Acquittal.....M.	4	—	20	5	37	97	6	3	1	57	1	231
F.	—	—	1	—	4	10	1	—	—	6	1	23
Detention because of insanity.....M.	—	—	—	—	2	3	—	2	—	2	—	9
F.	—	—	—	—	1	—	—	—	—	—	—	1
Disagreement of jury. Stay of proceedings.....M.	1	—	3	3	1	15	6	1	—	1	—	31
No Bill.....F.	—	—	—	—	—	1	—	—	—	—	—	1
By a Judge without Jury—												
Conviction.....M.	—	8	38	5	543	329	32	20	127	89	1	1,192
F.	—	—	2	—	18	11	1	—	3	1	—	36
Acquittal.....M.	—	2	18	—	207	106	8	11	51	35	—	438
F.	—	—	—	—	7	8	1	1	—	3	—	20
Detention because of insanity.....M.	—	—	—	—	—	—	—	—	1	—	—	1
F.	—	—	—	—	—	—	—	—	3	3	—	11
Stay of proceedings.....M.	—	—	1	—	—	1	1	2	—	1	—	—
F.	—	—	—	—	—	—	—	—	—	—	—	1
By a Magistrate with Consent—												
Conviction.....M.	393	44	596	452	3,291	6,613	1,073	684	1,611	2,017	41	16,815
F.	16	1	23	13	77	296	91	24	68	131	—	744
Acquittal.....M.	2	—	108	4	198	841	6	29	83	195	—	1,466
F.	—	—	4	1	6	82	—	—	5	13	—	111
Detention because of insanity.....M.	2	—	2	—	5	4	—	—	2	1	—	16
F.	—	—	—	—	1	—	—	—	—	—	—	1
Stay of proceedings.....M.	—	—	—	—	2	2	12	—	—	18	—	34
F.	—	—	—	—	—	—	—	—	—	2	—	2
By a Magistrate, Absolute Jurisdiction—												
Conviction.....M.	254	25	523	323	2,475	3,675	883	407	1,131	1,756	13	11,465
F.	20	—	30	16	164	345	128	27	83	140	—	962
Acquittal.....M.	11	—	63	7	230	582	18	19	69	162	—	1,161
F.	—	—	8	—	14	66	1	—	11	14	—	114
Detention because of insanity.....M.	—	—	—	—	1	5	—	—	2	—	—	8
F.	—	—	—	—	—	1	—	—	—	—	—	1
Stay of proceedings.....M.	—	—	—	—	—	—	2	—	1	5	—	8
F.	—	—	—	1	—	—	1	—	—	2	—	4
Totals, Persons Charged, 1957.....	723	80	1,462	848	7,394	13,319	2,309	1,244	3,274	4,736	69	35,458
Totals, Persons Convicted, 1957.....	703	78	1,234	827	6,678	11,495	2,246	1,176	3,045	4,216	67	31,765

10.—Persons Charged and Convicted of Indictable Crimes according to Trial Court, by Province, 1956 and 1957

Province or Territory and Item	1956					1957				
	Persons Charged and Convicted by—					Persons Charged and Convicted by—				
	Police Magistrate and Municipal Court	Juvenile or Family Court	County Court	Higher Court	Totals	Police Magistrate and Municipal Court	Juvenile or Family Court	County Court	Higher Court	Totals
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
Newfoundland—										
Charged.....	503	48	—	14	565	635	72	—	16	723
Convicted.....	484	45	—	11	540	626	66	—	11	703
Prince Edward Island—										
Charged.....	64	—	4	—	68	70	—	10	—	80
Convicted.....	64	—	4	—	68	70	—	8	—	78
Nova Scotia—										
Charged.....	1,205	3	44	40	1,292	1,357	—	59	46	1,462
Convicted.....	1,058	3	38	19	1,118	1,172	—	40	22	1,234
New Brunswick—										
Charged.....	764	1	9	11	785	817	—	12	19	848
Convicted.....	751	1	5	7	764	804	—	10	13	827
Quebec—										
Charged.....	5,281	743	319	102	6,445	5,402	1,065	773	154	7,394
Convicted.....	4,685	739	217	69	5,710	4,963	1,047	559	109	6,678
Ontario—										
Charged.....	11,008	50	598	219	11,875	12,504	8	511	296	13,319
Convicted.....	9,523	47	351	205	10,126	10,921	8	371	195	11,495
Manitoba—										
Charged.....	1,565	127	48	39	1,779	2,047	168	32	62	2,309
Convicted.....	1,522	126	32	27	1,707	2,008	167	22	49	2,246
Saskatchewan—										
Charged.....	1,277	1	56	32	1,366	1,186	4	36	18	1,244
Convicted.....	1,234	1	44	21	1,300	1,139	3	22	12	1,176
Alberta—										
Charged.....	2,470	11	85	148	2,714	3,066	1	21	186	3,274
Convicted.....	2,334	11	71	124	2,540	2,892	1	17	135	3,045
British Columbia—										
Charged.....	3,295	360	106	139	3,900	4,158	296	133	149	4,736
Convicted.....	2,979	356	71	85	3,491	3,749	292	93	82	4,216
Yukon and Northwest Territories—										
Charged.....	42	—	4	3	49	58	—	1	10	69
Convicted.....	42	—	4	3	49	58	—	1	8	67
Canada—										
Charged.....	27,474	1,344	1,273	747	30,838	31,300	1,614	1,588	956	35,458
Convicted.....	24,676	1,329	837	571	27,413	28,402	1,584	1,143	636	31,765

Subsection 2.—Young Adult Offenders (16-24 Years)

Young men and women from 16 to 24 years of age form 47.8 p.c. of the criminal population who commit indictable offences but they comprise less than 21.9 p.c. of the total population 16 years of age or over. As this age group includes some of the most daring offenders who may be already experienced criminals as well as first offenders likely to be turned from crime by further education and training, it seems worthwhile to give consideration to offenders in this group as distinct from offenders in the older age groups.

Of the young offenders in 1957, 57.1 p.c. were still under 20 years of age and 70.9 p.c. were tried in three provinces—Ontario 36.4 p.c., Quebec 21.1 p.c., and British Columbia 13.4 p.c.

11.—Young Adult Offenders, by Age Group, Sex and Province, 1956 and 1957

Year, Age Group and Sex	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon and N.W.T.	Canada
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
1956												
16 - 17 years.....M.	65	10	154	74	802	1,160	143	161	269	459	1	3,298
F.	4	2	9	—	29	46	12	13	29	12	1	157
18 - 19 ".....M.	50	9	163	91	502	1,127	174	176	278	338	6	2,914
F.	1	—	8	1	13	51	17	12	24	20	1	148
20 - 24 ".....M.	128	20	279	161	1,159	2,029	292	304	523	637	12	5,544
F.	3	1	14	—	40	101	33	14	43	54	1	304
Totals, 1956	251	42	627	327	2,545	4,514	671	680	1,166	1,520	22	12,365
1957												
16 - 17 years.....M.	91	9	194	97	1,192	1,560	185	181	341	633	1	4,484
F.	2	1	9	1	38	43	25	9	14	36	—	178
18 - 19 ".....M.	103	14	162	79	726	1,503	238	147	372	483	11	3,838
F.	3	—	8	6	20	63	20	8	20	18	3	169
20 - 24 ".....M.	142	22	274	160	1,180	2,229	430	257	658	827	11	6,190
F.	12	—	6	4	45	139	33	9	39	48	1	336
Totals, 1957	353	46	653	347	3,201	5,537	931	611	1,444	2,045	27	15,195

In 1957, four of the eight men found guilty of murder, 31 of the 108 convicted of manslaughter and 38 of the 56 found guilty of rape were under 25 years of age; 65.8 p.c. of the men convicted of breaking and entering, extortion and robbery were in that group as well as 56.4 p.c. of those found guilty of offences against property without violence (which include all thefts), 53.8 p.c. of those who maliciously damaged property, 51 p.c. of those found carrying offensive weapons and 47.3 p.c. of the prison escapees.

There were 1,762 female offenders in 1957, 683 of them under 25 years of age; more than half (362) of the young offenders were guilty of theft and having in possession. Of the 115 women convicted under the Opium and Narcotic Drug Act, 33 were in the young adult group as were 29 of the 63 convicted of forgery and uttering; 19 of the 24 female prison escapees were also young women.

12.—Young Adult Offenders Convicted of Indictable Offences, by Class of Offence and Sex, 1956 and 1957

NOTE.—Classifications in this table have been changed in accordance with alterations in the Criminal Code (see p. 303) and are therefore not strictly comparable with those published for previous years.

Class and Offence	1956		1957	
	Male	Female	Male	Female
	No.	No.	No.	No.
Criminal Code				
Class I.—Offences against the Person	1,584	67	1,780	68
Abduction and kidnapping.....	20	1	32	—
Assault, causing bodily harm, common, on police and obstruction.....	1,178	47	1,298	39
Offences against females ¹	226	5	230	9
Manslaughter, motor manslaughter and murder.....	28	—	25	2
Attempted murder, causing bodily harm and danger.....	34	4	35	3
Duties tending to preservation of life.....	5	—	3	—
Other offences against the person.....	93	10	147	15

¹ Includes abortion, indecent assault, sexual intercourse and attempt, incest, procuring, rape, attempted rape and seduction.

12.—Young Adult Offenders Convicted of Indictable Offences, by Class of Offence and Sex, 1956 and 1957—concluded

Class and Offence	1956		1957	
	Male	Female	Female	Male
	No.	No.	No.	No.
Criminal Code—concluded				
Class II.—Offences against Property with Violence	2,911	54	3,621	52
Breaking and entering a place, extortion and robbery.....	2,911	54	3,621	52
Class III.—Offences against Property without Violence	5,646	356	7,370	417
Fraud and false pretences.....	364	47	389	55
Having in possession.....	394	23	541	24
Theft.....	4,888	286	6,440	338
Class IV.—Malicious Offences against Property	264	13	292	16
Arson and other fires.....	36	2	25	4
Other interference with property.....	228	11	267	12
Class V.—Forgery and Other Offences Relating to Currency	226	34	270	29
Forgery and uttering forged documents.....	224	34	268	29
Offences relating to currency.....	2	—	2	—
Class VI.—Other Offences	1,078	50	1,136	68
Criminal negligence in operation of motor vehicles.....	62	—	54	1
Driving while ability to drive is impaired.....	330	1	310	1
Driving while intoxicated.....	71	—	35	1
Gaming, betting and lotteries.....	14	1	27	2
Keeping bawdy houses.....	3	17	2	17
Various other offences.....	598	31	708	46
Totals, Criminal Code	11,709	574	14,469	650
Federal Statutes				
Opium and Narcotic Drug Act.....	42	32	38	33
Other Statutes.....	5	3	5	—
Totals, Federal Statutes	47	35	43	33
Grand Totals	11,756	609	14,512	683

Table 13 shows the proportions of young offenders per 100,000 population in three age groups.

13.—Numbers per 100,000 Population of Young Adults Convicted of Indictable Offences, by Age Group, 1956 and 1957

Age Group	1956			1957		
	Offenders	Per 100,000 Population in Respective Group	Change from Preceding Year	Offenders	Per 100,000 Population in Respective Group	Change from Preceding Year
	No.		p.c.	No.		p.c.
16 - 17 years.....	3,455	742	+26.0	4,662	958	+34.9
18 - 19 ".....	3,062	683	+ 8.8	4,007	860	+30.9
20 - 24 ".....	5,848	518	- 0.5	6,526	561	+11.6

The sentences meted out to these young people vary somewhat from those given to offenders over 24 years of age. Usually a higher proportion of them are given suspended sentences, put on probation or sent to reformatories and a lower proportion fined or given gaol sentences.

14.—Disposition of Sentences for Indictable Offences, by Sex, 1956 and 1957

Disposition of Sentences	1956				1957			
	16-24 Years		25 Years or Over		16-24 Years		25 Years or Over	
	M.	F.	M.	F.	M.	F.	M.	F.
	No.	No.	No.	No.	No.	No.	No.	No.
Suspended sentence.....	1,485	135	1,293	205	2,065	150	1,313	206
Probation.....	2,387	169	854	117	3,062	187	1,096	151
Fine.....	2,482	104	5,108	304	3,003	143	5,413	408
Gaol.....	3,492	137	5,112	290	4,136	156	5,745	247
Reformatory.....	1,131	52	490	23	1,383	37	494	27
Penitentiary.....	777	12	1,216	28	859	10	1,426	40
Death.....	2	—	8	—	4	—	4	—

Through the system of suspended sentence and probation supervising, many young offenders receive another chance to make good, and reformatory training gives others an opportunity to better their employment possibilities. It is interesting to note that 24.2 p.c. of the young male offenders in 1957 were recorded as labourers, indicating that they had no particular skill by which to earn a living; the proportion of male offenders 25 years or over recorded as labourers was 17.4 p.c. Those recorded as students made up 7.9 p.c. of the youths and 9.6 p.c. were reported as unemployed as compared with 2.9 p.c. of the older men. Approximately three of every four lived in urban centres.

Subsection 3.—Convictions for Summary Conviction Offences

Offences punishable on summary conviction—those not expressly made indictable—include all offences against the Criminal Code, provincial statutes and municipal by-laws. Summary conviction offences are triable by magistrate or justice of the peace under Part XXIV of the Criminal Code or under the provincial summary convictions Acts.

It is debatable how far summary conviction offences are of a criminal nature and whether their increase indicates an increase in crime. Many are breaches of municipal by-laws and contrary to public safety, health and comfort as, for example, parking violations or practising trades without licence, but they do not involve violence, cruelty or serious dishonesty. On the other hand, offences as serious as cruelty to animals and contributing to juvenile delinquency are included under this classification and such indictable offences as common assault and driving with ability impaired may be tried on summary conviction.

Summary convictions increased by 2.7 p.c. to 2,466,762 in 1957 from 2,401,730 in 1956. Decreases were shown in Prince Edward Island, Nova Scotia, Quebec and Ontario.

15.—Convictions for Summary Conviction Offences, by Province, 1948-57

NOTE.—Figures for years before 1951 are for the 12 months ended Sept. 30, 1951; those for 1952-57 are for the calendar year. Statistics for the intervening months, October-December 1950, are given in DBS report, *Statistics of Criminal and Other Offences*. Figures for 1900-47 are given in the corresponding table of previous Year Books beginning with the 1933 edition.

Year	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon	N.W.T.	Canada
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
1948....		2,696	13,699	12,189	228,502	445,911	52,783	15,488	19,748	85,006	385	238	876,645
1949....		3,118	12,617	13,131	232,132	510,837	72,023	16,465	25,551	94,326	232	57	980,489
1950....		2,095	13,137	21,732	280,868	617,565	79,079	22,717	28,344	117,729	553	172	1,183,991
1951....	5,022	2,195	14,850	25,660	267,648	671,893	118,217	22,467	39,956	139,304	950	304	1,308,466
1952....	6,191	2,578	14,977	31,905	312,892	819,253	135,034	31,618	50,443	158,967	1,342	507	1,565,707
1953....	6,315	2,529	17,292	33,208	352,009	960,764	135,757	34,764	57,463	161,382	1,432	607	1,763,622
1954....	7,027	2,958	18,096	35,003	441,875	1,066,039	141,290	46,343	56,408	160,707	1,339	482	1,977,567
1955....	8,585	3,534	19,459	38,590	444,143	1,224,654	110,632	46,817	58,757	192,589		46	2,147,776
1956....	6,899	4,396	25,896	34,834	495,660	1,393,510	56,760	63,649	71,193	246,595	1,464	874	2,401,730
1957....	15,441	4,085	22,805	46,127	486,420	1,381,336	59,639	93,127	88,376	265,908	1,812	1,636	2,466,762

In considering statistics of summary convictions it should be remembered that such convictions are greatly influenced by the customs of the people and by the application and degree of enforcement of municipal regulations. These differ from place to place and from year to year and affect summary conviction offences more than they do indictable offences.

In 1957, increases appeared in convictions under the Criminal Code (17.2 p.c.), federal statutes (10.5 p.c.) and provincial statutes (0.3 p.c.). Traffic regulations under provincial statutes and municipal by-laws rose by 1.7 p.c.

16.—Convictions for Summary Conviction Offences, by Type, 1956 and 1957

NOTE.—Classifications in this table have been changed in accordance with alterations in the Criminal Code (see p. 303) and are therefore not comparable with those published for previous years.

Type of Offence	1956	1957	Increase or Decrease 1956-57
	No.	No.	p.c.
Criminal Code—			
Bawdy house, frequenters, inmates.....	565	900	+59.3
Causing disturbance by being drunk.....	4,293	3,883	- 9.6
Common assault.....	5,292	6,521	+23.2
Damage and interference with property.....	2,751	2,853	+ 3.7
Disorderly conduct.....	9,873	11,697	+18.5
Duty of persons to provide necessaries.....	1,409	1,842	+30.7
Gaming, betting, lotteries.....	1,267	2,251	+77.7
Criminal negligence in operation of motor vehicles.....	958	1,018	+ 6.3
Driving while ability to drive is impaired.....	15,342	17,017	+10.9
Driving while disqualified.....	1,253	2,705	+115.9
Driving while intoxicated.....	1,683	2,108	+25.3
Vagrancy.....	6,278	8,053	+28.3
Other Criminal Code.....	11,110	11,875	+ 6.9
Federal Statutes—			
Indian—Intoxication.....	8,540	9,716	+13.8
Other.....	2,373	2,806	+18.2
Juvenile Delinquents—			
Adults who contribute to delinquency.....	1,275	1,842	+44.5
Other.....	206	128	-37.9
Opium and Narcotic Drug.....	36	10	-72.2
Railway.....	972	1,198	+23.3
Revenue laws.....	9,608	9,500	- 1.1
Unemployment Insurance.....	1,034	1,408	+36.2
Other federal statutes.....	4,642	4,983	+ 7.7

¹ Include Customs, Excise and Income Tax Acts.

16.—Convictions for Summary Conviction Offences, by Type, 1956 and 1957—concluded

Type of Offence	1956	1957	Increase or Decrease 1956-57
	No.	No.	p.c.
Provincial Statutes—			
Deserted Wives and Children's Maintenance.....	5,610	3,638	-35.2
Game and Fisheries.....	5,872	6,349	+ 8.1
Traffic.....	566,483	552,953	- 2.2
Liquor Control—Intoxication.....	81,287	87,060	+ 7.0
Other.....	46,290	49,280	+ 6.5
Other provincial statutes.....	17,875	25,730	+43.9
Municipal By-laws—			
Intoxication.....	7,592	9,503	+25.2
Traffic.....	587,177	165,680	-71.8
Other.....	39,602	37,878	- 4.4
Prohibited parking.....	954,182	1,424,377	+49.3
Totals, Convictions.....	2,401,730	2,466,762	+ 2.7

17.—Convictions for Breaches of Traffic Regulations, by Province, 1948-57

NOTE.—See headnote to Table 15, p. 316.

Year	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon and N.W.T.	Canada
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
1948.....	..	393	4,607	2,469	174,021	352,253	41,074	6,300	7,984	60,493	5	649,599
1949.....	..	519	4,084	3,729	188,003	417,016	60,127	7,274	11,112	69,545	58	761,467
1950.....	..	366	4,265	11,909	227,857	508,010	67,832	12,362	13,772	92,038	138	938,549
1951.....	1,773	580	5,802	15,641	215,222	570,895	106,262	13,325	22,923	112,738	265	1,065,426
1952.....	2,565	765	5,109	20,358	266,835	714,810	122,647	19,749	25,693	132,123	368	1,311,022
1953.....	2,719	760	6,014	21,296	309,064	857,117	122,370	21,957	30,846	133,295	493	1,505,931
1954.....	3,048	1,214	7,040	21,804	390,701	954,749	125,346	32,666	28,690	120,281	272	1,685,811
1955.....	3,977	1,637	7,982	28,080	390,502	1,102,183	92,514	32,667	29,463	148,809	..	1,837,814
1956.....	3,454	2,199	12,167	24,964	452,882	1,285,303	42,998	48,356	45,031	210,041	342	2,127,737
1957.....	10,629	1,585	11,493	35,004	438,331	1,268,616	41,646	77,808	55,238	227,533	298	2,168,181

For the year 1957, Ontario, with 40.2 p.c. of the registrations of motor vehicles in Canada, had 58.5 p.c. of the total convictions for breaches of traffic regulations; Quebec in the same year had 19.8 p.c. of the registered vehicles and 20.2 p.c. of the convictions. In interpreting the figures in this way, however, it should be pointed out that traffic regulations are by no means uniform throughout Canada and no account is taken of the differences in the degrees of urbanization in the provinces. These two provinces have large urban centres but in provinces with lower degrees of urbanization, such as the Atlantic Provinces, Saskatchewan and Alberta, convictions are lower when considered in proportion to the number of motor vehicles registered.

Convictions for Drunkenness and Offences against the Liquor Acts.—In considering these convictions it should be noted that the same person may and often does appear before the courts on such charges more than once within a year and that the number of convictions may thus be well above the number of persons convicted.

18.—Convictions for Drunkenness, by Province, 1948-57

NOTE.—See headnote to Table 15, p. 316.

Year	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon	N.W.T.	Canada
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
1948.....	..	989	4,151	4,900	11,015	33,446	2,829	1,392	2,580	9,135	101	24	70,542
1949.....	..	1,089	4,363	5,125	10,419	33,797	3,613	1,497	4,656	11,237	126	9	75,931
1950.....	..	907	3,931	4,980	10,942	35,356	2,984	1,503	3,849	11,180	240	63	75,935
1951.....	844	759	4,432	6,036	10,222	38,577	3,098	1,915	4,691	13,007	213	104	83,898
1952.....	786	1,049	5,457	6,550	10,702	36,344	3,272	2,264	5,141	13,479	462	176	85,682
1953.....	1,045	1,007	6,378	6,712	9,103	38,108	3,729	2,728	7,753	13,987	403	229	91,182
1954.....	866	966	5,941	6,957	10,663	38,461	3,892	2,670	7,039	16,637	637	194	94,923
1955.....	1,015	1,033	6,527	6,067	9,786	39,465	3,616	3,147	6,275	16,214	..	32	93,177
1956.....	622	1,181	8,953	6,307	4,843	41,237	4,726	4,441	8,833	19,485	690	494	101,812
1957.....	1,706	1,493	7,263	6,941	5,499	43,181	5,342	5,116	9,770	21,717	1,021	1,113	110,162

There is general interest in the relation of alcoholism to crime but, when examining statistics to support the assumption that some crimes are associated with the consumption of liquor, it should be observed that accurate interpretation would necessitate allowance for population variables such as age and sex distribution and other classifications according to social and economic status, etc.

19.—Convictions for Offences against the Liquor Acts, by Province, 1948-57

NOTE.—See headnote to Table 15, p. 316.

Year	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon	N.W.T.	Canada
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
1948.....	..	329	2,274	1,274	1,519	13,891	1,921	2,311	2,670	1,443	39	73	27,744
1949.....	..	439	2,053	1,278	1,969	14,339	1,574	2,418	3,081	1,098	—	10	28,259
1950.....	..	268	2,192	1,172	3,121	15,761	1,980	2,478	3,504	1,164	64	34	31,738
1951.....	371	266	2,273	818	1,467	14,104	1,961	2,005	3,757	1,251	88	44	28,405
1952.....	475	284	2,236	1,172	777	15,050	2,314	2,527	6,782	1,381	243	94	33,335
1953.....	441	280	2,124	1,221	1,304	17,137	2,013	3,146	5,445	1,508	285	68	34,972
1954.....	411	368	2,285	979	1,203	18,351	2,501	3,484	5,313	1,557	251	38	36,741
1955.....	571	464	2,056	1,014	1,322	18,256	2,102	3,480	5,579	1,545	..	2	36,391
1956.....	431	472	2,027	1,032	2,783	22,430	2,886	4,539	6,867	2,628	116	79	46,290
1957.....	546	467	1,893	1,661	1,670	22,527	4,513	4,286	8,961	2,622	62	72	49,280

Convictions of Females.—The number of convictions against females for summary conviction offences was lower in 1957 than in 1956 by 2.3 p.c. Quebec, Nova Scotia, Prince Edward Island and Saskatchewan recorded percentage decreases of 57.4, 42.1, 30.1 and 25.8, respectively. Traffic offences were the cause of 84.6 p.c. of all summary convictions against women in 1957; such convictions fell by 5.2 p.c. as compared with 1956.

20.—Convictions of Females for Summary Conviction Offences, by Province, 1953-57

Province or Territory	Numbers of Convictions					Percentages of Convictions of Females to Total Convictions				
	1953	1954	1955	1956	1957	1953	1954	1955	1956	1957
Newfoundland.....	328	241	550	487	1,054	5.2	3.4	6.4	7.1	6.8
Prince Edward Island....	47	46	46	103	72	1.9	1.6	1.3	2.3	1.8
Nova Scotia.....	602	469	438	873	506	3.5	2.6	2.3	3.4	2.2
New Brunswick.....	455	586	439	554	583	1.4	1.7	1.2	1.6	1.3
Quebec.....	9,168	9,024	8,590	14,133	6,021	2.6	2.0	1.9	2.9	1.2
Ontario.....	53,987	63,384	77,321	88,237	91,649	5.6	5.9	6.3	6.3	6.6
Manitoba.....	3,838	4,309	4,853	2,367	2,568	2.8	3.0	4.4	4.2	4.3
Saskatchewan.....	617	641	847	1,850	1,372	1.8	1.4	1.8	2.9	1.3
Alberta.....	1,812	1,628	1,604	2,218	3,391	3.2	2.9	2.7	3.1	3.8
British Columbia.....	13,714	13,864	11,149	14,144	14,711	8.5	8.6	5.8	5.7	5.5
Yukon and N.W.T.....	148	186	9	234	364	7.3	10.2	19.6	10.0	10.6
Canada.....	84,716	94,378	105,846	125,200	122,291	4.8	4.8	4.9	5.2	5.0

Subsection 4.—Appeals

The disposition of appeals dealt with by the Supreme Court of Canada and the provincial supreme courts in criminal cases is shown by provinces for 1956 and 1957 in Table 21; the disposition of those dealt with by county and district courts against summary convictions is given in Table 22.

21.—Appeals in Indictable Cases, by Province, 1956 and 1957

Year and Province or Court	Appeals Disposed of by Courts	Crown Appeal					Appeal of Accused					
		From Acquittal			From Sentence		From Conviction				From Sentence	
		Dismissed	New Trial	Conviction	Dismissed	Varied	Dismissed	Acquitted	New Trial	Substituted Verdict	Dismissed	Varied
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
1956												
Newfoundland.....	3	—	—	—	—	—	—	1	—	—	—	2
P. E. Island.....	—	—	—	—	—	—	—	—	—	—	—	—
Nova Scotia.....	12	1	1	—	—	1	6	1	—	—	—	2
New Brunswick.....	6	1	1	—	—	—	3	—	1	—	—	—
Quebec.....	90	1	—	3	—	3	44	13	8	—	10	8
Ontario.....	282	—	1	1	—	3	111	21	16	—	107	18
Manitoba.....	29	—	—	—	—	—	9	3	2	—	14	1
Saskatchewan.....	60	—	—	—	2	5	4	2	—	2	36	7
Alberta.....	233	2	—	—	—	2	48	28	8	—	75	70
British Columbia.....	359	—	2	—	2	11	146	13	12	—	119	54
Supreme Court of Canada.....	19	—	1	1	1	—	9	4	3	—	—	—
Totals, 1956.....	1,093	5	6	5	5	25	380	86	52	6	361	162
1957												
Newfoundland.....	8	—	—	—	—	—	6	—	—	—	2	—
P. E. Island.....	—	—	—	—	—	—	—	—	—	—	—	—
Nova Scotia.....	22	2	1	1	1	—	2	2	2	—	6	5
New Brunswick.....	9	—	—	—	—	1	5	1	1	—	—	1
Quebec.....	100	1	—	—	—	—	60	15	4	1	12	7
Ontario.....	327	—	2	1	1	3	149	19	9	4	127	12
Manitoba.....	33	—	—	—	—	—	4	4	—	—	17	8
Saskatchewan.....	53	1	—	—	—	—	2	2	2	1	20	25
Alberta.....	302	—	—	—	—	2	57	31	5	—	128	81
British Columbia.....	565	2	1	2	3	1	173	14	9	1	220	139
Supreme Court of Canada.....	8	—	—	1	—	—	5	2	—	—	—	—
Totals, 1957.....	1,427	6	4	5	5	7	463	90	32	7	530	278

22.—Appeals in Summary Conviction Cases, by Province, 1956 and 1957

Year and Province	Appeals Dis- posed of by Courts	Appeal of Informant				Appeal of Accused				
		From Acquittal		From Sentence		From Conviction			From Sentence	
		Dis- missed	Con- viction	Dis- missed	Varied	Dis- missed	Ac- quitted	Substi- tuted Verdict	Dis- missed	Varied
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
1956										
Newfoundland.....	2	—	—	—	—	1	1	—	—	—
P. E. Island.....	14	—	—	—	—	9	—	2	—	3
Nova Scotia.....	102	6	13	1	—	61	18	1	1	1
New Brunswick.....	13	2	—	—	—	10	—	—	1	—
Quebec.....	82	—	6	9	1	37	28	—	—	1
Ontario.....	459	3	22	—	3	205	126	61	24	15
Manitoba.....	4	—	1	—	—	1	2	—	—	—
Saskatchewan.....	25	2	1	1	—	12	4	2	3	—
Alberta.....	152	8	8	1	—	50	54	5	7	19
British Columbia.....	134	11	5	—	—	58	51	1	2	6
Totals, 1956.....	987	32	56	12	4	444	284	72	38	45
1957										
Newfoundland.....	—	—	—	—	—	—	—	—	—	—
P. E. Island.....	—	—	—	—	—	—	—	—	—	—
Nova Scotia.....	93	12	9	1	—	50	19	—	—	2
New Brunswick.....	19	2	4	—	3	6	3	—	—	1
Quebec.....	92	—	2	—	2	36	11	15	—	26
Ontario.....	333	7	23	2	4	160	82	31	4	20
Manitoba.....	3	—	1	—	—	1	1	—	—	—
Saskatchewan.....	42	10	2	—	—	11	10	4	1	4
Alberta.....	193	12	11	2	1	84	37	6	10	30
British Columbia.....	210	15	13	—	1	82	56	4	24	15
Totals, 1957.....	985	58	65	5	11	430	219	60	39	98

Section 3.—Juvenile Delinquents

The Juvenile Delinquents Act defines a child as "any boy or girl apparently or actually under the age of 16 years". Provision is made, however, by which the Governor General in Council may proclaim that in a province the definition of a child be a "person under the age of 18 years". This has been done in British Columbia, Manitoba and Quebec. Newfoundland considers a juvenile to be a girl or a boy of under 17 years of age. For uniformity the figures relating to juveniles compiled by the Dominion Bureau of Statistics refer to the younger ages of under 16 years only and deal primarily with cases disposed of by the courts.

The fact that juvenile court statistics furnish the most comprehensive figures collected on a countrywide basis makes it important that their possibilities and limitations be understood. This Section gives an account of juvenile delinquency in Canada from the viewpoint of legal action taken, for in the eyes of the law a *child is a delinquent only when he or she is adjudged before the court to have committed a delinquency*. To many people the term 'juvenile delinquent' has a broader interpretation but that adopted in this Section does not include those boys and girls whose misdemeanours have not been reported to the courts nor those given the necessary advice and aid from their parents, their school, the police or a child care agency. Moreover it does not include those cases that are handled unofficially by the court, where the judge or probation officer makes an adjustment without filing a legal record of the offence. The tendency to follow this practice and thus keep children's names from court records is growing and may account to some extent for the decreasing number of recorded court cases.

These statistics represent cases of delinquency reported to the courts, from the most trivial infractions to the most serious—that of murder. The number of cases brought before the courts is influenced by such factors as personnel and facilities of the court, community

interest in and understanding of the function of a juvenile court, and by variations in the policies of the courts in the disposition of cases. As more courts are established the additional returns may exaggerate an apparent increase in delinquency or may underestimate a decrease. In some communities the juvenile court is the only available agency to provide services to children; in others there are well established agencies serving children of which the juvenile court is only one.

It should be noted, too, that the total figures do not represent the actual number of children charged and found guilty but rather tend to exaggerate them, for a child referred to the court two or more times during the year for different offences is counted as a different case each time (*see* p. 326). Neither do the figures represent the number of offences committed by offenders, as when a child is charged with more than one delinquency at a hearing only the most serious offence is counted.

Reports of juvenile delinquents were received in 1957 from 150 of the 169 judicial districts. Nineteen of these had no cases to report. Separate reports were received in 1957 from 173 incorporated urban centres of 4,000 or more population.

Juveniles brought before the Courts.—The number of juveniles brought before the courts in 1957 was 11,928, an increase of 15.6 p.c. over 1956. Quebec, Manitoba and British Columbia showed the greatest percentage increases among the provinces.

23.—Juveniles brought before the Courts, by Province, 1953-57

Province or Territory	1953	1954	1955	1956	1957	Percentage Change, 1956-57
	No.	No.	No.	No.	No.	
Newfoundland.....	207	229	269	368	319	-13.3
Prince Edward Island.....	37	43	31	48	36	-25.0
Nova Scotia.....	594	650	576	524	581	+10.9
New Brunswick.....	247	235	210	319	341	+ 6.9
Quebec.....	1,306	1,229	1,323	1,634	2,436	+49.1
Ontario.....	3,531	3,381	3,605	4,462	4,861	+ 8.9
Manitoba.....	405	422	455	676	792	+17.2
Saskatchewan.....	54	62	58	47	29	-38.3
Alberta.....	421	463	602	756	824	+ 8.9
British Columbia.....	1,023	1,037	1,058	1,475	1,705	+15.6
Yukon Territory.....	4	—	—	1	—	-100.0
Northwest Territories.....	—	—	—	5	4	-20.0
Canada.....	7,829	7,751	8,187	10,315	11,928	+15.6

24.—Percentage Change in the Number of Boys and Girls brought before the Courts, 1948-57

Year	Percentage Change from Preceding Year			Percentage Change from 1947		
	Boys' Cases	Girls' Cases	All Cases	Boys' Cases	Girls' Cases	All Cases
1948.....	- 5.1	- 1.3	- 4.7	- 5.1	- 1.4	- 4.7
1949.....	- 9.0	-24.0	-10.7	-13.6	-25.1	-14.9
1950.....	+ 2.9	+11.8	+ 3.8	-11.1	-16.3	-11.6
1951.....	+ 3.9	- 5.3	+ 3.0	- 7.6	-20.7	- 9.0
1952.....	- 5.0	+ 4.5	- 4.1	-12.2	-17.2	-12.7
1953.....	+ 8.3	+11.0	+ 8.5	- 4.9	- 8.1	- 5.3
1954.....	- 0.6	- 4.2	- 1.0	- 5.5	-12.0	- 6.2
1955.....	+ 3.3	+25.9	+ 5.6	- 2.4	+10.9	- 1.0
1956.....	+26.9	+19.4	+26.0	+23.9	+32.3	+24.8
1957.....	+14.9	+21.0	+15.6	+42.4	+60.1	+44.3

¹ Newfoundland included from 1951.

Children Adjudged Delinquent.—Over a period of ten years it has been found that between 80 and 90 p.c. of the children brought before the courts each year have been adjudged delinquent. The number of delinquents in 1957 was 9,679, an increase of 7.7 p.c. over 1956. The major increases in 1957 were shown in British Columbia and Quebec.

25.—Juvenile Delinquents, by Province, 1948-57

Year	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon and N.W.T.	Canada
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
1948.....	...	28	421	263	1,864	2,799	364	169	237	999	11	7,155
1949.....	..	49	433	198	1,323	2,541	403	171	246	833	1	6,198
1950.....	..	10	351	258	1,369	3,056	400	76	204	688	6	6,418
1951.....	175	52	483	261	1,180	3,024	347	64	242	815	1	6,644
1952.....	215	29	356	267	628	2,889	409	81	317	877	—	6,068
1953.....	196	33	443	235	773	2,975	360	49	357	952	4	6,377
1954.....	218	43	440	224	678	2,945	341	59	428	956	—	6,332
1955.....	254	30	390	202	1,040	3,138	401	57	555	978	—	7,025
1956.....	336	48	412	311	1,184	3,945	593	44	715	1,391	6	8,985
1957.....	301	35	492	324	1,351	4,051	708	26	766	1,621	4	9,679

Offences.—Thieving is the most prevalent delinquency among boys and, together with receiving stolen goods, was the reason for court appearance in 41.0 p.c. of all cases in 1957. Breaking and entering and robbery were committed by 23.0 p.c. of the delinquent boys and another 11.1 p.c. committed wilful acts against property. Only 2.8 p.c. of the boys were guilty of offences against the person and 43.9 p.c. of these were charged with common assault.

Incorrigibility (23.8 p.c.) and thefts (20.2 p.c.) were the complaints against 44.1 p.c. of the delinquent girls in 1957.

26.—Juvenile Delinquents by Group of Offence, and Ratio per 100,000 Population 7-16 Years of Age, 1948-57

Year	Offences against the Person		Offences against Property with Violence		Offences against Property without Violence		Wilful Offences against Property		Forgery and Offences against Currency		Other Offences		Total Convictions	
	No.	Ratio to Population	No.	Ratio to Population	No.	Ratio to Population	No.	Ratio to Population	No.	Ratio to Population	No.	Ratio to Population	No.	Ratio to Population
1948.....	204	10	1,229	64	2,400	124	729	38	15	1	2,578	134	7,155	371
1949.....	176	9	1,346	67	2,244	113	600	30	15	1	1,817	91	6,198	311
1950.....	151	7	1,337	65	2,394	116	667	32	16	1	1,853	90	6,418	311
1951 ¹	188	9	1,542	72	2,563	119	765	36	20	1	1,566	73	6,644	310
1952.....	172	8	1,456	65	2,496	112	633	28	25	1	1,286	58	6,068	272
1953.....	169	7	1,416	61	2,415	103	770	33	19	1	1,588	68	6,377	273
1954.....	184	7	1,444	59	2,489	102	673	28	32	1	1,510	62	6,332	259
1955.....	181	7	1,548	61	2,767	108	629	25	29	1	1,871	73	7,025	275
1956.....	250	9	1,888	69	3,572	131	839	31	39	1	2,397	88	8,985	329
1957.....	254	9	2,005	70	3,764	132	994	35	28	1	2,634	92	9,679	359

¹ Newfoundland included from 1951.

27.—Juvenile Delinquents classified by Offence, 1953-57

Offence	1953	1954	1955	1956	1957
	No.	No.	No.	No.	No.
Manslaughter and murder.....	—	—	2	1	1
Murder, attempt.....	1	—	—	—	1
Rape and attempt, sexual intercourse and incest.....	5	—	3	4	5
Indecent assault (male and female).....	28	32	39	26	63
Assault, causing bodily harm and danger.....	16	24	12	49	38
Common assault.....	89	76	71	115	115
Interfering with transportation facilities.....	11	10	3	12	1
Other offences against the person.....	19	42	51	43	30
Breaking and entering a place.....	1,391	1,421	1,522	1,849	1,970
Robbery and extortion.....	25	23	26	39	35
Theft and having in possession.....	2,290	2,346	2,643	3,389	3,566
False pretences and fraud.....	15	20	26	14	24
Arson.....	34	26	15	33	63
Other interference with property.....	686	647	614	806	911
Forgery and offences relating to currency.....	19	32	29	59	28
Incorrigibility and vagrancy.....	529	441	533	586	633
Immorality.....	159	137	223	211	197
Various other offences.....	1,080	1,055	1,213	1,769	1,978
Totals.....	6,377	6,332	7,025	8,985	9,679

Sex and Age.—Juvenile delinquents are predominantly boys. The proportion for all offences in 1957 was approximately one girl to eight boys, a ratio that has remained much the same over a long period. Juveniles of 13 to 15 years of age comprised the majority of delinquents in 1957—75.8 p.c. of the boys and 88.0 p.c. of the girls. However, 346 boys and 12 girls (3.7 p.c. of the children) were under 10 years of age.

28.—Percentages of Delinquent Boys and Girls, by Age Group, 1956 and 1957

Age Group	1956			1957		
	Boys	Girls	Both Sexes	Boys	Girls	Both Sexes
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
7 - 12 years.....	24.8	9.9	23.1	24.0	12.0	22.6
13 - 15 years.....	74.0	89.1	75.7	75.8	88.0	77.3
Not given.....	1.2	1.0	1.2	0.2	—	0.1
Totals.....	100.0	100.0	100.0	100.0	100.0	100.0

Education and Employment.—Many causes contribute to backwardness in school work. The retarding influence may be illness, over-crowding in the home, disturbed family situations or dull mentality. Presuming that six years is the usual age for entering the first grade, 47.7 p.c. of the boys and girls in 1957 were reported to be two or more years below the normal grade for their age and 3.4 p.c. of the boys and girls were a year or more above it.

Nearly two-thirds (62.5 p.c.) of the boys had attained grade 7 and 52.0 p.c. of the girls grade 8 at the time of delinquency. The majority of boys who had left school had reached grades 6 to 8 and the girls, grades 7 to 9. Some high school education had been achieved by 24.4 p.c. of the boys and girls.

29.—Age, Sex and School Grade of Delinquent Boys and Girls, 1956 and 1957

(B=Boys; G=Girls)

Age	School Grades																Total Delinquents	
	Elementary										Secondary		Auxiliary		Not Given			
	1-4		5		6		7		8									
	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
1956																		
7 years.....	23	2	—	—	—	—	—	—	—	—	—	—	—	—	1	—	24	2
8 ".....	91	3	4	—	—	—	—	—	—	—	—	—	1	—	2	—	98	3
9 ".....	177	7	13	1	3	—	—	—	—	—	—	—	4	—	5	—	202	8
10 ".....	199	7	86	7	14	1	4	—	—	—	—	—	2	—	13	—	318	15
11 ".....	179	4	147	6	126	16	29	2	—	—	—	—	3	—	17	1	501	29
12 ".....	138	3	191	9	230	15	178	13	39	3	6	1	12	—	39	—	1,833	44
13 ".....	95	6	161	8	298	26	421	53	282	36	58	17	23	2	46	7	1,384	155
14 ".....	60	10	107	20	197	23	455	63	538	87	450	82	34	11	61	10	1,902	306
15 ".....	46	7	86	10	221	28	350	56	543	101	1,208	206	40	13	117	24	2,611	445
Not given.....	—	—	—	—	—	—	—	—	—	—	—	—	—	—	95	10	95	10
Totals, 1956....	1,008	49	795	61	1,089	109	1,437	187	1,402	227	1,722	306	119	26	396	52	7,968	1,017
1957																		
7 years.....	26	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	26	1
8 ".....	79	3	—	—	—	—	—	—	—	—	—	—	—	—	1	—	80	3
9 ".....	227	8	12	—	—	—	—	—	—	—	—	—	1	—	—	—	240	8
10 ".....	248	13	118	5	15	1	1	—	—	—	—	—	3	—	1	—	366	19
11 ".....	169	7	186	16	130	8	33	3	—	1	7	1	8	1	2	—	528	36
12 ".....	117	11	160	20	271	18	180	15	31	8	—	1	15	3	—	—	781	76
13 ".....	98	4	156	10	275	33	455	78	272	44	49	11	11	8	2	—	1,318	188
14 ".....	64	10	119	14	199	39	609	88	599	106	488	100	30	15	5	1	1,213	373
15 ".....	47	8	98	9	211	33	458	72	665	97	1,456	250	46	7	25	9	3,006	485
Not given.....	—	—	—	—	—	—	—	—	—	—	—	—	—	—	12	—	12	—
Totals, 1957....	1,075	65	849	74	1,101	132	1,736	256	1,567	256	2,009	362	114	34	48	10	8,490	1,189

In 1957, 8.8 p.c. of the delinquent boys and 12.2 p.c. of the delinquent girls were not attending school. At the time of leaving school their ages ranged from 9 to 15 years, the majority being 14 to 15 years. One-third of the delinquent boys who had left school were unemployed. The largest group of wage earners (90) were in occupations concerned with transportation, such as messengers, helpers on milk delivery routes, truck drivers' assistants, etc. Nearly half of the girls were idle after leaving school. Factory work and domestic and personal services were the main occupations of those employed.

Birthplaces of Juvenile Delinquents and their Parents.—Canada was the country of birth of 93.2 p.c. of the juvenile delinquents in 1957 (the place of birth was not recorded in 1.4 p.c. of the cases); 5.4 p.c. were born in the British Isles, Europe, the United States, and Asia. Ontario was the province of residence of 52.9 p.c. of those born outside Canada.

Both parents of 78.5 p.c. of the delinquent children in 1957 were born in Canada and another 10.6 p.c. had one parent born in this country. To evaluate these figures comparison should be made of population ratio of children from 7-15 years of age whose parents were Canadian-born with those whose parents were born elsewhere.

Home Circumstances.—The type of home in which he lives and the amount and quality of supervision he receives are important factors in a child's behaviour. The statistics of the marital status of the parents and the place and type of residence of the child reflect home conditions and are worth recording as possible reasons for social or emotional maladjustment. The parents of 77.0 p.c. of the delinquent children were

reported to be living together in 1957 but homes broken by separated parents, divorce or death was the background of 19.9 p.c. of the delinquent boys and girls. The mothers of 13.0 p.c. of the juvenile delinquents were employed other than in the home and the mothers of another 2.2 p.c. were dead. The fathers of 6.3 p.c. of the cases were deceased. Of every five juveniles who appeared in court, four were urban residents; 91.5 p.c. were living in their own homes at the time they got into difficulties; 4.3 p.c. of them were in foster homes, either with a relative or some other person; and institutions were the homes of 1.3 p.c. of them.

Sources of Complaint.—The police were the complainants in the majority of juvenile cases, 83.9 p.c. of the boys having been charged by them. Probation officers and parents were responsible for 6.0 p.c. and 2.5 p.c., respectively, of those charged. School authorities referred 1.6 p.c. of the boys to the courts and social agencies another 0.6 p.c.

The proportion (59.9 p.c.) of girls charged by the police was considerably less than the proportion of boys so charged. Parents made more use of the courts for girls than for boys (17.2 p.c.). School authorities laid complaints in 5.8 p.c., probation officers in 8.9 p.c. and social agencies in 4.0 p.c. of the girls' cases.

Disposition of Cases.—In 1957 not quite one-half of the children's cases (44.3 p.c.) were heard within four days of the charge and (64.2 p.c.) within nine days. However 10.7 p.c. of them had to wait at least two weeks and 11.2 p.c. waited a month or more before the first hearing. These waiting periods may be explained in various ways.

Some county courts sit only twice or even once a month. Hearings may be deferred because of sickness in the family, school examinations, stormy weather or long distances. The chief cause for delay, however, is the time it takes to investigate the facts properly. The probation officer, and frequently there is only one to a court, has to find out what occurred at the time of the delinquency; he must get in touch with the parents and the school, learn something of the home situation, perhaps arrange medical or psychiatric examinations and explore community resources. The disadvantage of a long waiting period is outweighed by the assistance the court receives in deciding the form of treatment best suited to the child's needs and the type of care that will be the most economical for the community. For these intervening days or weeks most children are left in their own homes while a minority are placed in detention homes and, in the long run, whether the effect of the waiting period is good or bad is determined by the care given the youngster during that time.

Juvenile court judges heard 94.0 p.c. and magistrates 5.6 p.c. of the juvenile cases before the courts. The balance were heard by justices of the peace. The proportion of those declared delinquent (95.2 p.c.) in the magistrates' courts was greater than in the juvenile courts (80.3 p.c.). In the former courts 2.1 p.c. of the cases were dismissed while in the juvenile courts only 2.8 p.c. were dismissed but 16.9 p.c. were adjourned *sine die*.

Some courts consider children whose hearings are adjourned *sine die* as delinquent while others do not but, for the sake of uniformity, the latter point of view is maintained by the Dominion Bureau of Statistics. In assessing the total problem of juvenile delinquency, however, cases adjourned *sine die* have to be taken into account for, when the proportion of cases dealt with in this way increases, the proportion of those declared delinquent declines.

30.—Juveniles before the Courts, Dismissed and Delinquent, 1953-57

Item	1953		1954		1955		1956		1957	
	No.	p.c.	No.	p.c.	No.	p.c.	No.	p.c.	No.	p.c.
Before the Courts.....	7,829	100.0	7,751	100.0	8,187	100.0	10,315	100.0	11,928	100.0
Dismissed.....	216	2.8	237	3.1	207	2.5	221	2.1	331	2.8
Adjourned <i>sine die</i>	1,236	15.8	1,182	15.2	955	11.7	1,109	10.8	1,918	16.1
Delinquent.....	6,377	81.4	6,332	81.7	7,025	85.8	8,985	87.1	9,679	81.1

Sentences for delinquent boys usually differ somewhat from those for girls. In 1957 the proportion of boys put on probation was 42.5 p.c. and of girls 45.0 p.c. Fines or restitution were meted out to 25.0 p.c. of the boys but to only 11.5 p.c. of the girls. This is because damage to property, for which restitution seems a reasonable adjustment, is committed relatively more often by boys than by girls. A much larger proportion of girls (29.4 p.c.) than boys (14.3 p.c.) were sent to training schools. Final disposition of case was postponed for 10.0 p.c. of the girls and 12.8 p.c. of the boys were given suspended sentences.

31.—Disposition of Delinquents, by Type of Sentence, 1948-57

Year	Reprimanded		Probation of Court		Protection of Parents		Fined or Made Restitution		Detained Indefinitely		Sent to Training School		Final Disposition Suspended		Corporal Punishment		Mental Hospital	
	No.	p.c.	No.	p.c.	No.	p.c.	No.	p.c.	No.	p.c.	No.	p.c.	No.	p.c.	No.	p.c.	No.	p.c.
1948.....	248	3.4	2,201	30.8	55	0.8	1,850	25.8	47	0.7	1,120	15.6	1,622	22.7	12	0.2	..	..
1949.....	196	3.2	2,141	34.5	98	1.6	1,655	26.7	39	0.6	1,036	16.7	1,029	16.6	4	0.1	..	..
1950.....	354	5.2	2,392	37.3	94	1.4	1,148	17.9	26	0.4	1,144	17.8	1,257	19.6	3	0.1	..	..
1951 ¹	309	4.6	2,313	34.8	154	2.3	1,433	21.6	45	0.7	1,141	17.2	1,247	18.7	2	0.1	..	..
1952.....	243	4.0	2,412	39.8	148	2.4	1,015	16.7	1	--	1,152	19.0	1,095	18.1	2	--	..	..
1953.....	227	3.6	2,620	41.1	186	2.9	1,147	18.0	28	0.4	1,107	17.4	1,062	16.6	—	—	..	..
1954.....	199	3.1	2,595	41.0	174	2.8	1,095	17.3	27	0.4	1,121	17.7	1,119	17.7	2	--	..	..
1955.....	181	2.6	3,067	43.7	365	5.2	1,064	15.1	50	0.7	1,180	16.8	1,118	15.9	—	—	..	..
1956.....	359	4.0	3,155	35.1	404	4.5	2,015	22.4	30	0.3	1,440	16.0	1,577	17.6	—	—	5	0.1
1957.....	460	4.7	3,822	39.5	300	3.1	2,261	23.4	63	0.7	1,563	16.1	1,202	12.4	1	--	7	0.1

¹ Newfoundland included from 1951.

Actual Number of Delinquent Children.—As stated in the introduction to this Section, the figures in the foregoing tables do not represent the actual number of children charged and found guilty, since a child referred to the court more than once in a year is counted as a separate case each time. Thus the 11,928 appearances before the court in 1957 (Table 23), which resulted in 9,679 delinquencies (Table 25), involved 8,811 children. Of these 8,811 children, 8,075 were found delinquent on one occasion during the year, as shown in Table 32, but 911 of these 8,075 were reported as having been found delinquent one or more times in previous years.

32.—Total Delinquent Children, by Number of Delinquent Appearances, 1956 and 1957, with Number of Appearances in Previous Years

Year and Number of Delinquent Appearances	Total Delin- quent Child- ren	Delinquent Appearances in Previous Years											
		0	1 or More	1	2	3	4	5	6	7	8	9	10+
		No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
1956	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
1 or more.....	8,238	7,122	1,116	679	262	107	39	18	7	3	1	—	—
1.....	7,597	6,671	926	570	219	83	31	15	5	3	—	—	—
2.....	568	402	166	93	39	21	8	3	2	—	—	—	—
3.....	56	40	16	11	4	—	—	—	—	—	—	—	—
4.....	9	4	5	4	—	1	—	—	—	—	—	—	—
5.....	4	2	2	1	—	1	—	—	—	—	—	—	—
6.....	2	1	1	—	—	1	—	—	—	—	—	—	—
7.....	1	—	—	—	—	—	—	—	—	—	—	—	—
8.....	1	1	—	—	—	—	—	—	—	—	—	—	—
1957	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
1 or more.....	8,811	7,716	1,095	594	247	138	54	23	15	11	5	5	3
1.....	8,075	7,164	911	509	196	110	43	20	11	11	3	5	3
2.....	631	487	144	62	46	22	10	1	2	—	1	—	—
3.....	86	56	30	19	3	2	1	2	—	—	—	—	—
4.....	11	6	5	2	—	3	—	—	—	—	—	—	—
5.....	6	3	3	1	1	1	—	—	—	—	—	—	—
6.....	2	—	2	1	1	—	—	—	—	—	—	—	—

Section 4.—Penal Institutions and Training Schools

Penal institutions may be classified under three headings: (1) penitentiaries, where prisoners have long sentences and the turnover is slow; (2) reformatories, where the turnover is also rather slow; and (3) common gaols, where the turnover is extremely rapid.

If the average of the figures for inmates at the beginning and at the end of the year be considered the average population for the year, and the number of discharged as the turnover, the turnover in the years 1956 and 1957 was: in penitentiaries, 57 and 56 p.c.; in reformatories, 373 and 362 p.c.; and in gaols, no less than 1,742 and 1,833 p.c. respectively.

In considering these figures it should be borne in mind that the common gaol population changes from day to day and is made up partly of accused persons awaiting trial who may be either liberated or sent to a penitentiary or reformatory.

33.—Movement of Population in Penitentiaries, Reformatories and Gaols, 1953-57

Type of Institution and Item	1953	1954	1955	1956	1957
	No.	No.	No.	No.	No.
Penitentiaries—					
Inmates in custody at beginning of year.....	4,686	4,934	5,120	5,507	5,508
Admitted during the year.....	3,119	3,275	3,096	3,112	2,977
Discharged during the year.....	2,871	3,089	2,709	3,112	3,053
In custody at end of year.....	4,934	5,120	5,507	5,508	5,432
Reformatories for Men—					
Inmates in custody at beginning of year.....	2,828	2,818	2,906	2,990	2,924
Admitted during the year.....	9,331	10,081	10,804	10,964	11,532
Discharged during the year.....	9,341	9,993	10,720	11,030	11,197
In custody at end of year.....	2,818	2,906	2,990	2,924	3,259
Reformatories for Women—					
Inmates in custody at beginning of year.....	178	160	155	165	168
Admitted during the year.....	513	591	622	630	541
Discharged during the year.....	531	603	612	627	564
In custody at end of year.....	160	148	165	168	145
Common Gaols—					
Inmates in custody at beginning of year.....	5,599	5,779	6,279 ^r	6,391	5,901
Admitted during the year.....	93,890	100,519	108,661 ^r	106,563	112,610
Discharged during the year.....	93,710	100,019 ^r	108,549 ^r	107,053	112,171
In custody at end of year.....	5,779	6,279 ^r	6,391 ^r	5,901	6,340
Totals—					
Inmates in custody at beginning of year....	13,291	13,691	14,460 ^r	15,053	14,501
Admitted during the year.....	106,853	114,466	123,183 ^r	121,269	127,660
Discharged during the year.....	106,453	113,704 ^r	122,590 ^r	121,822	126,985
In custody at end of year.....	13,691	14,453 ^r	15,053 ^r	14,501	15,176

Subsection 1.—Penitentiaries*

The penitentiaries of Canada are administered by the Penitentiaries Branch of the Department of Justice. Eight institutions are included in the system, the two largest being at Kingston, Ont., and St. Vincent de Paul, Que. Others are at Dorchester, N.B., Prince Albert, Sask., Stony Mountain, Man., New Westminster, B.C., Collin's Bay, Ont., and St. John's, Nfld., though the latter is operated under provincial authority. Included also in the system is a Federal Training Centre at St. Vincent de Paul operated for the treatment and training of offenders under 25 years of age and a Penitentiary Staff College

* Prepared under the direction of R. B. Gibson, Commissioner of Penitentiaries, Ottawa.

at Kingston for the training of penitentiary officers through courses of instruction and training conferences. In April 1957, Joyceville Institution, ten miles from Kingston, started operating as part of Kingston Penitentiary. Its present accommodation is limited to 48 inmates, but when construction is completed the capacity of this new eastern institution will be increased to 500. It will then become a self-contained organization distinct from Kingston Penitentiary. During the year ended Mar. 31, 1958, the average daily population of the penitentiaries was 5,311 and the total net cash outlay for maintenance for the year was \$10,965,174 or \$5.66 per inmate per day.

Females given penitentiary sentences in the various provinces are sent to the Prison for Women at Kingston, Ont., where special quarters and staff are maintained for their detention and supervision; inmates in custody on Mar. 31, 1958, numbered 85.

Since the proclamation of the Penitentiary Act on Sept. 1, 1947, many of the recommendations of the Royal Commission (1938)—usually called the Archambault Commission—to investigate the penal system in Canada have been implemented. The Commission made 88 recommendations 68 of which involved action on the part of the Federal Government and the other 20 involved either joint action with the provinces or were the responsibility of the provinces and/or local communities.

Of the 68 recommendations which called for action on the part of the Federal Government, at least 50 have been or are in process of being carried out. Among these are the following:—

- (1) In 1947 the headquarters administration of the penitentiaries was completely reorganized, a move which included the appointment of a Commissioner responsible directly to the Minister of Justice, and of Deputy and Assistant Commissioners to assist him in the performance of his duties.
- (2) Wardens have been given full responsibility for the executive management of their institutions under the direction of the Commissioner. Four conferences of all Penitentiary Wardens have been held in Ottawa since 1947.
- (3) More than half of all the penitentiary staffs have so far attended training courses at the Penitentiary Staff College at Kingston. In addition, in-service training officers have been appointed at all institutions and local training is carried out for all newly appointed officers.
- (4) The pay of penitentiary officers has been increased in nearly all cases by at least 100 p.c. since the Commission's report. For example, guards in 1938 received a maximum salary of \$1,500 and now receive \$3,810. The 40-hour week was introduced in 1955.
- (5) A complete revision of the methods of classifying prisoners has been made and two or more qualified Classification Officers are now employed at each institution. These officers assess each inmate, after obtaining information as to his previous record, social habits, aptitudes, educational attainments and general background, and submit their reports to a Classification Board for decision upon a plan for treatment and employment. The Classification Officers work in close co-operation with officials of the National Employment Service and the Prisoners' Aid Societies in planning employment and assistance on the prisoner's release and officials of these organizations regularly visit the penitentiaries to interview inmates.
- (6) Full-time vocational training courses in most of the construction trades have been set up at five institutions under competent teacher-trainers, the courses lasting for a period of nine months. Necessary equipment, tools and materials to turn out well qualified tradesmen are provided. Results to date show that less than 20 p.c. of those who have taken these training courses have been subsequently charged with criminal offences.
- (7) The staff of school teachers has been more than doubled since 1947, libraries have been modernized and the supply of books, magazines, technical books and educational films greatly increased. Correspondence courses provided by the Department of Veterans Affairs and by the Provincial Departments of Education are available free of charge to all inmates who wish to take advantage of them.
- (8) A comprehensive program of recreational activities is in effect in all institutions, with facilities for softball, soccer, hockey, boxing and other sports to be carried on in non-working hours. Hobbycraft activities are permitted in the cells, and prison magazines prepared and edited by inmate editorial boards are published at all institutions.

- (9) Hospitals have been modernized and supplied with much additional equipment, such as X-ray equipment, surgical appliances, and other modern aids to diagnosis and treatment.
- (10) Psychiatrists are now employed on the staff of six penitentiaries, and outside psychiatrists are consulted at the institutions where a staff psychiatrist is not available. At one institution there is a special psychiatric ward with a trained staff.
- (11) A thorough survey of the prison industrial shops was undertaken; shops were modernized and provided with proper lighting and facilities and hundreds of thousands of dollars worth of modern machinery. The value of industrial work produced in these shops increased from \$409,278 in 1946-47 to \$1,361,109 in 1956-57.
- (12) Remuneration for the prisoners has been increased from a flat rate of 5 cents per day to a graded scale of 12, 18 and 24 cents, based on individual rating for conduct, industry and progress towards rehabilitation. A portion of the money so earned is set aside for the day of release, with the balance available for spending in the institutional canteen for small comforts such as tobacco, sweets, soft drinks and toilet articles.
- (13) The recommendation of the Commission with regard to Prisoners' Aid Societies has been largely implemented by the formation of John Howard Societies or other similar associations in every province and in many localities in the individual provinces; these societies are assisted by grants from the Government of Canada.
- (14) The rules for the discipline of officers have been revised, and provide that no officer may be dismissed without being heard, and he must be advised of the reason for his dismissal.
- (15) All penitentiary kitchens have been modernized and supplied with the necessary mechanical equipment to meet approved culinary and sanitary requirements. A qualified official at Headquarters is employed to supervise and direct the operation of the kitchens.
- (16) An agricultural college graduate was appointed Supervisor of Farms and farming operations have been greatly expanded. Dairy herds are maintained at all institutions except British Columbia and Collin's Bay, with pedigree stock and a high record of milk production. Most of the pork, eggs and vegetables used in the penitentiaries are produced on the farms. Factories for the canning of fruit and vegetables are in operation at two institutions.

34.—Movement of Convicts in Penitentiaries, Years Ended Mar. 31, 1953-57

Item	1953	1954	1955	1956	1957
	No.	No.	No.	No.	No.
In Custody, Apr. 1	4,686	4,934	5,120	5,507	5,508
Received—					
From gaols.....	2,136	2,434	2,378	2,384	2,275
By transfer.....	970	827	708	706	668
By cancellation of ticket-of-leave.....	13	14	10	22	34
Totals, Received.....	3,119	3,275	3,096	3,112	2,977
Discharged by—					
Expiry of sentence.....	1,463	1,810	1,456	1,572	1,663
Transfer.....	972	826	708	706	669
Ticket-of-leave.....	384	384	449	723	637
Deportation.....	5	—	—	—	—
Death.....	11	21	16	17	20
Pardon.....	21	36	66	70	47
Release to military authorities.....	—	—	—	—	—
Release on order of court.....	15	12	9	14	9
Return to provincial authorities.....	—	—	—	—	—
Instructions from Immigration Department..	—	—	—	—	—
Other reason.....	—	—	5	10	8
Totals, Discharged.....	2,871	3,089	2,709	3,112	3,053
In Custody, Mar. 31	4,934	5,120	5,507	5,508	5,433

¹ Includes one inmate confined in a mental hospital.

35.—Summary Statistics re Convicts in Penitentiaries, as at Mar. 31, 1953-57

Item	1953	1954	1955	1956	1957
	No.	No.	No.	No.	No.
Place of Birth—					
Canada.....	4,554	4,712	5,123	5,157	5,123
British Isles and possessions.....	116	138	134	118	99
Austria and Hungary.....	14	14	13	17	20
Italy.....	9	9	7	10	13
Poland.....	38	29	33	37	31
U.S.S.R.....	30	24	24	15	23
Other Europe.....	66	84	67	49	38
United States.....	91	90	99	86	68
Other countries.....	16	20	7	19	18
Marital Status—					
Single.....	2,955	3,017	3,357	3,325	3,307
Married.....	1,607	1,592	1,603	1,601	1,527
Widowed.....	132	132	143	156	157
Divorced.....	132	131	130	141	141
Separated.....	108	248	274	285	301
Sex—					
Male.....	4,829	5,025	5,412	5,426	5,347
Female.....	105	95	95	82	86
Age—					
Under 21 years.....	564	639	694	669	703
21 to 29 ".....	2,151	2,192	2,299	2,217	2,091
30 to 39 ".....	1,293	1,364	1,467	1,546	1,521
40 to 49 ".....	572	597	701	698	742
50 to 59 ".....	239	213	232	259	268
Over 60 ".....	115	115	114	119	108
Totals.....	4,934	5,120	5,507	5,508	5,433

The Ticket-of-Leave System.—The parole system in Canada is legalized under the Ticket-of-Leave Act (R.S.C. 1952, c. 264) administered by the Minister of Justice. It is described in detail in the 1948-49 Year Book, pp. 305-308.

Subsection 2.—Reformatories and Other Corrective Institutions

As of June 1, 1951, there were 13 reformatory and corrective institutions, four of which were for women. Enumeration cards were completed for 2,551 men and 141 women on June 1, 1951. In these institutions for adults 29 p.c. of the inmates were under 21 years of age at the time of admission and almost 50 p.c. were between the ages of 21 and 39 years. The proportion of single men was 63 p.c. and three out of four of the men whose residence was known lived in urban centres. More than one-half of the women (53.2 p.c.) were single and the majority (91.0 p.c.) of those whose residence was known lived in urban centres. From five to eight years of elementary school education were recorded for about one-half of the male and female inmates. Only 6.7 p.c. of the men were unemployed at the time of admission. On the other hand 20.6 p.c. of the women were unemployed and another 34.0 p.c. had never worked.

The revenue for the support of the institutions for men was derived chiefly from provincial funds (56.0 p.c.) and from the sale by the institutions of farm and industrial products (41.3 p.c.). To support the institutions for women, income was received from provincial funds (31.0 p.c.), municipalities (1.8 p.c.), sale of products (53.4 p.c.), donations and bequests (4.6 p.c.) and other sources (9.2 p.c.).

Summary statistics of inmates, movement of population, terms of sentence and penal record of inmates are given in the 1954 Year Book, pp. 311-313.

Subsection 3.—Training Schools

Reports on movement of population are received yearly from training schools and figures compiled therefrom are shown in Table 36 for the years 1953 to 1957.

36.—Movement of Population in Training Schools, Years Ended Mar. 31, 1953-57

Item	1953	1954	1955	1956	1957
	No.	No.	No.	No.	No.
Training Schools for Boys—					
Pupils in residence at beginning of year.....	1,802	1,833	1,977	1,988	1,938
Admitted during the year.....	1,695	1,811	2,079	1,875	2,395
Discharged during the year.....	1,664	1,667	1,988	1,925	2,201
In residence at end of year.....	1,833	1,977	2,068	1,938	2,132
Training Schools for Girls—					
Pupils in residence at beginning of year.....	753	859	928 ¹	928 ²	926
Admitted during the year.....	808	781	767	803	737
Discharged during the year.....	702	705	774	805	665
In residence at end of year.....	859	935	921	926	998
Totals—					
Pupils in residence at beginning of year...	2,555	2,692	2,905 ¹	2,916 ²	2,864
Admitted during the year.....	2,503	2,592	2,846	2,678	3,132
Discharged during the year.....	2,366	2,372	2,762	2,730	2,866
In residence at end of year.....	2,692	2,912	2,989	2,864	3,130

¹ The discrepancy between pupils in residence end of year 1954 and those in residence at beginning of year 1955 comes from the inclusion in Home of the Good Shepherd, Saint John, N.B., of seven adults.

² The discrepancy between 1955 and 1956 comes from closing of St. Patrick's Home, Halifax, N.S.

More detailed information on training schools is collected at each decennial census. Statistics compiled from the Census of 1951 are summarized in the 1954 Year Book, pp. 314-316.

Section 5.—Police Forces

The Police Forces operating in Canada are organized under three groups: (1) the Federal Force, which is the Royal Canadian Mounted Police whose operations cover a very wide field in addition to purely police work; (2) Provincial Police Forces—the Provinces of Ontario and Quebec have organized their own Provincial Forces, but the other provinces engage the services of the Royal Canadian Mounted Police to perform parallel functions within their boundaries; (3) Municipal Police—every urban centre of reasonable size has its own police organization which is paid for by the local taxpayers and which attends to police matters within the borders of the municipality concerned.

Municipal police statistics are at present undergoing revision and are therefore not carried in this edition of the Year Book.

Subsection 1.—The Royal Canadian Mounted Police*

The Royal Canadian Mounted Police is a Civil Force maintained by the Federal Government. Organized in 1873 as the North West Mounted Police, its duties were confined to what was then known as the North West Territories. By 1904 the work of the Force received signal recognition when the prefix "Royal" was bestowed upon it by King Edward VII. In 1905 when Alberta and Saskatchewan were constituted provinces an arrangement was made whereby the Force continued to discharge its duties as formerly, each province making a contribution towards defraying the cost. This arrangement was continued until 1917.

* Revised by the Commissioner of the Royal Canadian Mounted Police, Ottawa.
64973-1—22½

In 1918 the Royal North West Mounted Police was assigned the duty of enforcing Dominion legislation for the whole of Canada west of Port Arthur and Fort William. Soon after the end of World War I an extension of governmental activities made it obvious that the enforcement of Dominion statutes throughout Canada must be the responsibility of a Dominion Force and therefore the jurisdiction of the Royal North West Mounted Police was extended to the whole of Canada early in 1920. In that year the name of the Force was changed to the Royal Canadian Mounted Police and the former Dominion Police with Headquarters at Ottawa, whose duties were largely connected with guarding public buildings in that city and Canadian Government dockyards at Halifax, N.S., and Esquimalt, B.C., was absorbed by the Royal Canadian Mounted Police.

The Force is controlled and administered by a Minister of the Crown (the Minister of Justice). Its Commissioner has the rank and status of a Deputy Minister. Officers are commissioned by the Crown and are selected from serving non-commissioned officers. The Force is divided into 17 Divisions, including the Marine Division, with Headquarters at Ottawa, Ont. There are 640 detachments distributed over the entire country. Its land transportation consists of 1,476 motor vehicles, most of which are fitted with two-way radio sets connecting with wireless stations operated by the Force. Such stations operate in both Western and Eastern Canada, including the Quebec-United States boundary area. The Air Division of the Force operates 13 aircraft of various types. The strength of the Force is 5,318 officers and men, with a reserve strength of 268. The reserve strength is located chiefly in the larger cities where men can be congregated easily and where instruction can be given in the evenings. The Marine Division has a strength of 254 officers and men and operates 30 ships of various kinds, the majority of which are located on the Atlantic and Pacific Coasts and on the Great Lakes. The Personnel Branch of the RCMP has officers in each Division across the country. Great care is taken in the selection of recruits.

The Royal Canadian Mounted Police is responsible for enforcing federal laws throughout Canada and is specially empowered to deal with infractions against smuggling by sea, land and air. It also enforces the provisions of the Excise Act and is responsible for the suppression of traffic in narcotic drugs. In all, the Force has responsibility in over 50 Federal Government Acts including the Indian Act. It also assists many departments of the Federal Government in administrative duties and is responsible for the protection of government buildings and property. It is the sole police force operating in the Yukon and Northwest Territories. Furthermore it undertakes intelligence and security services for the Federal Government. In addition to its federal duties, agreements have been made with the Provinces of Alberta, Saskatchewan, Manitoba, Nova Scotia, New Brunswick, Prince Edward Island, Newfoundland and British Columbia whereby the services of the Royal Canadian Mounted Police may be secured to enforce provincial laws and the Criminal Code in rural districts upon payment for such services. The agreement with Saskatchewan has been in existence since 1928 and those with the Provinces of Alberta, Manitoba, New Brunswick, Nova Scotia and Prince Edward Island since 1932. The agreements were entered into with the Provinces of Newfoundland and British Columbia in August 1950 and the police forces of those provinces were absorbed by the Royal Canadian Mounted Police. The Force has agreements also for policing more than 124 district municipalities, cities and towns.

The services of Royal Canadian Mounted Police experts in fingerprints, crime-index information, examination of firearms and questioned documents are available to all other police forces in Canada. A *Police Gazette*, issued monthly and containing instructional articles on police work as well as the latest information on wanted or missing persons, is sent to all police forces across the country. The Force has two Police Colleges that are open to selected personnel from other police forces in Canada and to a more limited number of those outside its boundaries.

A special article appears in the 1957-58 Year Book entitled "The Philosophy of the Royal Canadian Mounted Police".

Subsection 2.—Provincial Police Forces*

Quebec Provincial Police Force.—This Force is responsible for upholding law and order over the whole territory of the province from the provincial boundary between Ontario and Quebec to the Magdalen Islands in the Gulf of St. Lawrence. The Force is composed of about 1,400 men in charge of a Director, who is responsible to the Attorney-General of the province.

To facilitate operations the territory is divided into two almost equal parts designated as the District of Montreal and the District of Quebec. The Director has his office in Montreal and an Assistant Director is situated in the city of Quebec. Working under these Directors are two Deputies and an Inspector General. In each District the Police Force is divided into three sections—the detective corps, the constabulary and the traffic officers. Each section is in charge of a captain supported by a number of lieutenants and sergeants.

A province-wide frequency modulation radio-communication system has been established at Montreal. A main station operating on the top of Mount Royal directs radio equipped cars within a radius of between 60 and 80 miles around Montreal; similar stations operating from the cities of Quebec and Trois Rivières direct the mobile units operating in their respective areas. Substations operate at each of the eight bridges giving access to or exit from the city of Montreal and a number of cars, all equipped with three-way radio units, patrol the surrounding country day and night.

Ontario Provincial Police.—The Ontario Provincial Police Force is maintained by the Ontario Government and administered by the Attorney-General's Department. It is responsible for law enforcement in the rural and unorganized parts of the province and in certain municipalities by contract. The development of the Force from its beginning in the early years of Confederation to the passing of the Police Act in 1946, is outlined in the 1950 Year Book, pp. 332-333.

The Force, with a strength of approximately 1,800 in 1958, consists of a General Headquarters at Toronto and 17 District Headquarters at Chatham, London, Dundas, Niagara Falls, Toronto, Mount Forest, Barrie, Peterborough, Belleville, Perth, Cornwall, North Bay, Sudbury, Sault Ste. Marie, Timmins, Port Arthur and Kenora. Each District has detachments adequate to meet local law-enforcement requirements. A Criminal Investigations Branch, under the command of an Assistant Commissioner, is maintained at Toronto to handle crimes of a major nature.

The Force operates one of the largest frequency modulation radio networks in the world, which is a most efficient method of combating every type of lawlessness. The network includes 63 fixed stations—46 60-watt stations and 17 250-watt stations, one of which is dual-controlled—and 590 radio-equipped mobile units including five boats operating on Lake Temagami, Lake Simcoe, Lake Nipissing, Lake of the Woods and Georgian Bay.

In 1958, the Ontario Provincial Police Force policed 60 municipalities which requested this service under the provisions of the Police Act.

* Revised by Geo. A. Shea, O.B.E., Secretary-Treasurer, Canadian Association of Chiefs of Police, Montreal, Que.

CHAPTER VIII.—EDUCATION AND RESEARCH

CONSPECTUS

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NOTE.—The interpretation of the symbols used in the tables throughout the Year Book will be found facing p. 1 of this volume.

PART I.—FORMAL EDUCATION*

Section 1.—Education in the Provinces and Territories

This Section deals mostly with that part of Canada's population enrolled in regular school classes—about one-sixth of the total. This is not a complete picture of education in Canada as there are many others enrolled in part-time courses and evening classes, and everyone receives some informal education through the daily newspapers, radio, television, cinema, books, magazines and other sources. Most of the children aged six to 13 are enrolled in school although some children begin regular classes or enter kindergarten at age five. About 7 p.c. drop out at age 13 and from that age on, the number attending school drops rapidly year by year. Thus 90 p.c. are in school at age 14, 76 p.c. at age 15, 55 p.c. at 16, 37 p.c. at 17, 23 p.c. at 18, and 14 p.c. at age 19. Only 15 p.c. of those aged 20 to 24 are in school and less than 1 p.c. from that age on.

To instruct these students, some 130,000 members of the work force of the country are employed as regular staff members of the schools and universities and thousands of others are part-time employees or volunteers in the adult education field. An important though smaller number are employed to administer and inspect the schools and to determine policy; and a somewhat larger group of volunteers are elected or appointed to school boards.

* Prepared in the Education Division, Dominion Bureau of Statistics.

Education was made the responsibility of the provinces by the British North America Act and each province has developed a system to meet its needs. The Federal Government was left the responsibility for education of the Indians, Eskimos, all children in the territories outside of the provinces, the penitentiaries and the establishments of the Armed Forces.

Each province has developed its system independently but certain factors, such as proximity, interchange of personnel, conventions, etc., have resulted in greater similarities than differences among the systems. Because of this, a convenient method of explaining the structure of public education in Canada is to attempt a typical system of education for the Canadian provinces and then to show how each differs from this.

General Structure of Public Education

Provincial Departments of Education.—Education is administered by a Department of Education comprised of the following personnel: a Minister of Education, an elected member of the provincial legislature who is appointed as a cabinet minister and is responsible to the legislature for the satisfactory operation of the system; a Deputy Minister of Education, an expert in education employed as a civil servant, who administers the program set forth by the Minister, advises him on policy and to a great extent determines the continuing policy of the Department; a Chief Superintendent, or Chief Inspector of Schools, appointed as head of the inspectoral or supervisory staff who are liaison officials between the Department of Education and the teachers, principals and local education authorities.

On the program side of the Department, directors are appointed for special aspects of education as soon as they have reached the point where they should be encouraged and developed throughout the system. The number and variety of these are determined by the size and educational philosophy of the province. Typical fields include a selection of the following curriculum: vocational education, professional training, guidance, audio-visual education, school broadcasting, research, testing, auxiliary classes, correspondence courses, art, music, home economics, physical education and health, adult education and rural education.

In addition, the Department usually has a registrar, an accountant, a manager of a textbook branch, and necessary assistants and clerical personnel. In many provinces, public libraries are under the jurisdiction of the Department of Education. The Department prescribes the curricula, authorizes textbooks or lists of books, prescribes teacher-training, inspects the schools, and determines the school year, hours of instruction and ages of compulsory attendance.

Local Education Authorities.—A majority of the boards of education or trustees are now elected by the resident ratepayers of the district. Formerly, the urban areas elected or appointed board members, and rural areas elected a board for each one-room rural school. While this is still generally the practice in Newfoundland, Prince Edward Island, Manitoba and for the parishes in Quebec, elsewhere the trend has been towards organizing the rural areas of the province into larger administrative units under a central board, although the local district boards may be retained to assist in the administration of individual schools that have not been centralized. Local school authorities have general responsibility for the employment of teachers, maintenance of local schools and related matters within the frame-work of the School Act.

Education is financed largely through local taxes on land and improvements, and from government grants. Methods of determining the grants vary from province to province but usually consist of a basic grant determined on the number of rooms or teachers, average daily attendance, level of instruction given, cost of transportation and possibly some equalization depending on need. Special grants may be given to assist in construction, for audio-visual equipment, for special classes, etc. Very little revenue is received from fees, and that usually from students living outside the district or those in upper high school grades.

Types of Schools.—Only a brief description of the more common types of schools found in most provinces can be given. There are a few junior kindergartens for four-year-olds and regular kindergartens in larger urban centres but the number is decreasing rather than increasing because of the necessity of using all available teachers and facilities at the elementary level.

The elementary schools generally teach grades 1 to 8, the subjects including English, arithmetic, social studies, health and physical training, natural science, music, arts and possibly religion. Crafts, agriculture, industrial arts and a second language may be added during the last two years.

The secondary schools normally teach grades 9 to 12 or 13. The courses offered vary considerably: a school may be typically academic, commercial, or technical; a combination of these or a composite school offering academic, commercial, technical, agricultural and home economics courses; or a junior or senior high school teaching only some of the grades. Subject matter is considerably more diversified at the high school level. It continues the work of the elementary grades but branches out, offering courses in science and mathematics, English and foreign languages, history and geography, health and physical education, music, art, drama, general shop, home economics, agriculture and other subjects. The tendency is to require a set number of subjects to be made up from obligatory and optional subjects each year. Extra-curricular activities generally form a part of the high school offering.

Trade schools and technical institutes are found in most provinces. Trade schools provide instruction for apprentices in the trades, commercial occupations and so on, and technical institutes prepare technicians in electronics or such specialties as paper or cloth making and other highly skilled occupations, many of the courses being at the post-secondary level.

Teacher-training schools may be an integral part of the university or be separate, with the university providing a one-year postgraduate course for secondary teachers.

All provinces have one or more universities that are subsidized by the province. However, the universities are not under the direct control of the Department of Education, but are operated under boards of governors and senates. In addition, most provinces have several theological or other colleges affiliated with one or other university.

Individual Characteristics of Provincial and Territorial Systems

The following paragraphs indicate the ways in which the several provincial and territorial systems differ from the general pattern outlined above and mention, as well, institutions and practices of special interest.

Newfoundland.—Newfoundland might be said to have a public denominational school system. The Deputy Minister is assisted by four Superintendents of Education, one for each of the four main religious denominations—Anglican, Roman Catholic, Salvation Army, and United Church. The Minister of Education, the Deputy Minister and the four Superintendents form a Council of Education which makes educational policy and co-ordinates the various parts of the system. One curriculum serves the schools of all denominations and teachers receive common training in the Memorial University of Newfoundland, a provincial institution.

Each denomination builds and maintains its own schools, with financial assistance from the provincial government. A few amalgamated schools have been organized, mostly in company towns. The salaries of most teachers are paid directly by the province according to a provincial scale. Until recently no provision had been made for local taxation, but in 1954 legislation was passed which provided that any area might be declared taxable for school purposes; by 1955 only one area had been so declared.

Some children are admitted to school at the age of five in what is called a "pre-grade 1" class. Elementary education includes grades 1 to 8 and secondary education grades 9 to 11. Most schools teach both elementary and secondary grades. The high school curriculum

is academic, leading to university entrance after grade 11. In some schools in St. John's, grade 12 studies are offered (following the Nova Scotia grade 12 program of studies and the pupils writing examinations set by the Atlantic Provinces Examining Board) and a post-grade 11 commercial course is taught. An active school-building program in the province includes, for the first time, regional high schools. Few private schools are operated in Newfoundland.

Trade courses for apprentices and other trade training is offered in the St. John's Vocational Training Institute. A provincial university, to which is affiliated a theological college (Queen's), is located in St. John's. The Division of Adult Education of the Department of Education sponsors programs in both urban and rural centres.

Prince Edward Island.—Except in the city of Charlottetown and the incorporated towns, there are no local governing authorities, and therefore the school boards collect the school tax. About 87 p.c. of the money for teachers' salaries is provided by the provincial government; it is supplemented by the local school boards.

Prince Edward Island is essentially a rural province with more than 75 p.c. of the schools being rural one-room structures. Another 17 p.c. of the schools have from two to five rooms and only 8 p.c. are larger. Kindergarten classes are available in a few urban schools. The elementary school curriculum comprises grades 1 to 8 and high school grades are 9 to 12 but it is common for rural schools to teach grades 1 to 10, with grades 11 and 12 available in the larger centres. One junior high school has been established recently. There are also a few private Roman Catholic schools in the province.

Trade training is given in the Provincial Vocational School and two private business colleges provide commercial courses. The government operates the Prince of Wales College and Normal School in Charlottetown, offering junior college and teacher-training courses, and both high school and university programs are available at St. Dunstan's College (Roman Catholic). A Director of Adult Education on the staff of the Department of Education organizes programs throughout the province.

Nova Scotia.—In 1942 the provincial legislature of Nova Scotia established municipal school units which accepted responsibility for a set "minimum program of education" in rural and village schools. Differences between the amount received from a fixed municipal tax and the cost of the minimum program was paid as an "equalization grant" by the province. On Jan. 1, 1956, significant legislation gave effect to recommendations of a Royal Commission on Public School Finance in Nova Scotia. It was designed to establish a "foundation program" in all public elementary and secondary schools, to make more equitable the basis of taxation for school purposes and to distribute provincial support in relation to need.

The public school curriculum of Nova Scotia is divided into elementary, junior high and senior high, the latter schools providing commercial courses as well as general academic courses. Rural and regional high schools, commonly offering grades 7 to 12, provide secondary school facilities outside the urban centres. The number of pupils studying by correspondence, though a relatively small proportion of the total, has increased in recent years because of the shortage of qualified teachers. There are about a score of private elementary and secondary schools in the province, almost all of them Roman Catholic.

Vocational training is provided under the auspices of the Department of Education in two county vocational high schools, in evening vocational classes in more than 40 centres, by correspondence courses, and in eight coal-mining schools, a land survey school, a marine navigation school, a marine engineering school, and a college of art. The Department of Labour operates three Canadian Vocational Training Centres. The Nova Scotia College of Agriculture, operated under the Department of Agriculture, gives short courses in agriculture. Fisheries schools are operated by the Department of Trade and Industry.

In 1955 there were seven private business colleges and nine private correspondence schools registered under the Trade Schools Regulations Act, which is administered by the Department of Education.

Until 1955, elementary school teachers were trained only in the Nova Scotia Normal College and secondary school teachers in the universities. Since that year, however, several universities have provided teacher-training to students who have completed two or three years of college studies, and to those who have university degrees, thus preparing teachers for the elementary and junior high schools.

Nova Scotia has 14 institutions of higher education: Acadia University, Collège Sainte-Anne, Convent of the Sacred Heart (junior college), Dalhousie University, University of King's College, Maritime College of Pharmacy, Pine Hill Divinity Hall, Holy Heart Seminary, Maritime School of Social Work, Mount Saint Vincent College, Nova Scotia Agricultural College (junior college), Nova Scotia Technical College, St. Francis Xavier University (including Mount Saint Bernard College and Xavier Junior College), and St. Mary's University.

With the assistance of the Adult Education Division of the Department of Education, there is a province-wide program for adults which includes folk schools, evening classes, short courses and cultural services, with special emphasis on economic development. A number of the universities offer extension services.

New Brunswick.—New Brunswick has recently been changing from a 12-year to a 13-year system and students of grades 11 and 12 write the Atlantic Provinces Examining Board junior matriculation papers. In two urban high schools grade 13 is taught, this grade following the program of studies of the first-year course at the University of New Brunswick, whose examinations the pupils write. Most of the private academic schools in the province, of which there are fewer than 20, are Roman Catholic institutions.

Facilities for secondary education have been increased by the construction of regional and rural high schools. In many of these, and in urban composite high schools, there are several choices of curricula—academic, commercial, industrial, home economics and agriculture. Vocational education is provided in two vocational schools, in the New Brunswick Technical Institute at Moncton, in evening classes in many centres, in the Maritime Forest Ranger School, in four agricultural schools (two operated by the Department of Agriculture and two by the Department of Education), and in private business colleges of which there are about half a dozen.

Elementary school teachers are trained in the New Brunswick Teachers' College and in the normal school of the Université Saint-Joseph. In addition, there are normal school courses for men and women in six Roman Catholic educational institutions. Secondary school teachers are trained in five universities, and for industrial-course teachers there is a training program at the New Brunswick Technical Institute. A recent development in teacher education was the establishment at the University of New Brunswick and at one other university, of a three-year course leading to a Bachelor of Elementary Education degree.

New Brunswick has six universities and colleges: Mount Allison University, University of New Brunswick, Université du Sacré-Coeur, Université Saint-Joseph (including Collège de l'Assomption and Collège Notre-Dame d'Acadie), Université Saint-Louis (including Collège Maillet), and St. Thomas College.

Quebec.—The Quebec academic system differs most widely from the general provincial pattern in that there is no Minister of Education. Education is represented in the provincial cabinet by the Provincial Secretary and the Department of Education is headed by a Superintendent. Under him are two Deputy Ministers, one heading the Roman Catholic system the other the Protestant system. Whereas private schools are permitted in all provinces, Quebec encourages and subsidizes many of them. Chief among these are the nearly 100 classical colleges affiliated to the French language universities (Laval,

Montreal and Sherbrooke). Each offers an eight-year course, entered after completion of the seven years of elementary schooling and leading in two four-year stages—secondary and college—to the baccalaureate degree.

The French public school curriculum has been revised recently. A seven-year elementary and four- or five-year secondary school has been substituted for a three-stage primary school (elementary, 1 to 7; complementary, 8 and 9; superior, 10 to 12). Also a classical course has been introduced into the public secondary school, equivalent to the first four years of the classical college curriculum. The junior matriculation level in both Catholic and Protestant schools is at the end of the eleventh year.

Public vocational education is highly developed in Quebec, chiefly under the Department of Social Welfare and Youth which operates a network of arts and trades schools, technical schools, and institutes. Teacher training, too, has undergone radical revision within the past few years. The normal schools raised the entrance requirement to completion of the eleventh year, instituted one-, two- and four-year courses, and related their programs to university requirements so that a degree in pedagogy may be earned in the four-year course.

At the university level the province has the three French language universities mentioned above and the French language Canadian Services College—*Collège Militaire Royal de Saint-Jean*. The three English language institutions of higher education are McGill University (including Macdonald College), Sir George Williams College, and Bishop's University.

Adult education forms part of the program of many governmental and voluntary bodies, certain of the latter receiving support from the provincial government.

Ontario.—Ontario has developed a complex pattern of local units of school administration. One county, for example, might conceivably have a wide variety of school units, such as school sections, consolidated sections, continuation districts, township school areas and town and village districts, which makes summarization difficult.

The province has a 13-grade public school program, the junior matriculation level being reached at the end of grade 12, and senior matriculation at the end of grade 13.

Elementary schools (grades 1 to 8) under control of the Department of Education may be public or separate, all but three of the latter being Roman Catholic. A considerable number of the Roman Catholic separate schools in French language communities are bilingual and are staffed by teachers trained in both English and French. Secondary schools (grades 9 to 13) under Departmental control are all public and are of five main types: collegiate institutes, high schools, continuation schools, vocational schools, and composite schools. A relatively small number of pupils attend private schools; most of these schools are inspected by the Department of Education and their students are prepared for Departmental certificates.

Most vocational education at the secondary level is provided in the public secondary schools, although there is a Provincial Institute of Trades (in Toronto), two agricultural schools under the Department of Agriculture, many private business colleges and a number of private trade schools. The Department of Education also operates five technical institutes in which most courses are at the post-secondary level.

Teachers for the elementary schools are trained at teachers' colleges operated by the Department of Education, in a one-year course following completion of grade 13 or a two-year course following grade 12. Secondary school teachers receive a one-year period of training at the Ontario College of Education, University of Toronto, after university graduation. Vocational school teachers are also trained at the Ontario College of Education.

In addition to a number of independent junior colleges and professional training schools, the province has nine institutions of higher learning: University of Ottawa, Queen's University, Royal Military College, University of Toronto, McMaster University, University of Western Ontario, Assumption University of Windsor, Carleton University, and *Collège du Sacré-Coeur*. All but the last two have federated or affiliated colleges.

In the field of adult education, the Community Programmes Branch of the Department of Education gives assistance to informal education and recreation programs, public secondary schools sponsor night classes, and the universities offer extension services. Many voluntary agencies also operate in this field.

Manitoba.—The curriculum of Manitoba's public schools is organized in three stages: elementary (kindergarten and grades 1 to 6), junior high (grades 7 to 9) and senior high (grades 10 to 12). Schools of the three types exist in the larger centres but in rural areas most or all of the grades are often taught in one school. There has been little consolidation in Manitoba and many small schools still exist. No provision is made for separate schools in the public system but there are private or parochial schools which are inspected by officials of the Department of Education.

Winnipeg has a vocational school at the senior high level and composite high schools are found in other centres; vocational courses are taught together with academic courses in a number of schools. In addition, the Department of Education operates a trade school (Manitoba Technical Institute) in Winnipeg, and the Department of Agriculture operates an agriculture and home-making school in Brandon.

A one-year course following grade 12 is conducted at the Provincial Normal School at Tuxedo and at the Normal School of Brandon College for the training of elementary school teachers. Secondary school teachers are prepared by the University of Manitoba and by Brandon College in a post-graduation year. Summer courses at the Manitoba Technical Institute are provided for the training of vocational instructors.

The institutions of higher learning are the University of Manitoba (with which are affiliated Brandon College, the Manitoba Law School, Collège de Saint-Boniface, St. John's College, St. Paul's College and United College) and the Grand Séminaire de Saint-Boniface, an affiliate of the University of Montreal, Que. Direction of the provincial adult education program and the University of Manitoba's extension services is fused in the office of the Director of University Extension and Adult Education. Agricultural extension is under the Department of Agriculture.

Saskatchewan.—The Saskatchewan school curriculum is divided into two stages: elementary (kindergarten and grades 1 to 8) and high school (grades 9 to 12). The senior matriculation level is at the end of grade 12 and there is no leaving certificate awarded at the junior matriculation level (end of grade 11). Public and separate (the latter chiefly Roman Catholic) schools are under the control of the provincial Department of Education which also inspects all private elementary and most private secondary schools.

Three technical schools and an increasing number of composite high schools are included in the provincial system; a Canadian Vocational Training Centre is located in Saskatoon. A government correspondence school serves a growing number of students, offering academic courses at all grade levels and courses in vocational subjects. Consolidation of school districts is proceeding in Saskatchewan but there are still many small rural schools in operation. Special attention was given to the problems of rural schooling by a provincial Royal Commission on Agriculture and Rural Life whose report on Rural Education was published in 1956.

The elementary school teachers of Saskatchewan are trained in a one-year course, following grade 12, at two Saskatchewan Teachers' Colleges (at Moose Jaw and Saskatoon). The College of Education of the University of Saskatchewan trains secondary school teachers. A recent move to relate more closely the teachers' colleges and the University made it possible for graduates of the former to gain a year's credit for their training when entering the University for the four-year Bachelor of Education course.

The University of Saskatchewan (including Regina College) and its ten affiliated colleges dominate the higher educational scene, but there are also two independent Roman Catholic theological seminaries and four colleges affiliated with the University of Ottawa.

There is an active Adult Education Division in the Department of Education and a flourishing program of rural extension centred in the College of Agriculture of the University.

Alberta.—Like Saskatchewan, Alberta has a 12-grade school system ending at the senior matriculation level. Schools may be public or separate and all private schools are under Departmental inspection. The three-stage curriculum includes: elementary (grades 1 to 6), junior high (grades 7 to 9) and senior high school (grades 10 to 12). Because of crowding in the schools there has been no kindergarten in the public system since 1954, but private kindergartens do operate.

A major project was completed in 1954 when the Coterminus Boundary Commission submitted its final report. For most of the settled parts of the province, the Commission's work resulted in identical boundaries for rural school and municipal administrative areas. Centralization of school facilities has been a significant aspect of school administration in recent years, resulting in improved facilities, better qualified teachers and greater retention of pupils in high school grades.

Vocational education is provided in public high schools, many of which are of the composite type; in the Provincial Institute of Technology and Art at Calgary; at three Canadian Vocational Training Centres—one for trade training, one for nursing aide training and one for commercial training; at the three agricultural and home economics schools operated by the Department of Agriculture; and in private trade schools and business colleges.

All teacher training in Alberta is conducted by the University of Alberta at Edmonton and a branch of that institution at Calgary. Minimum training of elementary school teachers is given in a one-year course following grade 12 while secondary school teachers must have a university degree.

Higher education is concentrated in the University of Alberta, including its Calgary branch and three affiliated colleges. There is an independent Roman Catholic seminary affiliated with the University of Ottawa, and two independent junior colleges. The University of Alberta's extension service is province-wide and the Department of Agriculture also conducts an active extension program.

British Columbia.—The basic divisions in the public school system of British Columbia are: elementary school (kindergarten and grades 1 to 6), junior high school (grades 7 to 9) and senior high school (grades 10 to 13). There are, however, several combination patterns such as elementary-junior high school, elementary-senior high school, junior-senior high school. The junior matriculation level is reached at the end of grade 12 and the senior matriculation level at the end of grade 13. No provision is made for the public support of separate schools but there are private schools in the province serving minority groups. Consolidation of schools has progressed far in British Columbia.

Public vocational schools include the Vancouver Technical School, Vocational Institute and the Vancouver School of Art, all at the secondary level, two provincial trade schools and a number of private trade schools and business colleges.

Until 1956, elementary school teachers were trained in two provincial normal schools and secondary school teachers in the University of British Columbia. In that year all teacher training was integrated in a College of Education created in the University with a branch at Victoria College.

The chief institution of higher education is the University of British Columbia, to which are affiliated Victoria College (a junior college) and four theological schools, two of which have been recently established. A Canadian Services College operates at Royal Roads, and Notre Dame College at Nelson is a junior college affiliated to Gonzaga University, Spokane, Washington, U.S.A.

Under the jurisdiction of the provincial Department of Education there are night classes, vocational courses, correspondence courses and community program services for adults, and the University operates a province-wide system of extension services.

Yukon Territory.—The Yukon Territory Department of Education, headed by a Superintendent of Schools, operates 14 public schools and two Roman Catholic separate schools. In addition, under the jurisdiction of the Indian Affairs Branch of the federal Department of Citizenship and Immigration, there are four Indian schools in the Territory proper and another across the boundary in northern British Columbia.

Northwest Territories.—The federal Department of Northern Affairs and National Resources operates schools in the Northwest Territories for Eskimos and Indians, often with the co-operation of the Anglican and Roman Catholic churches. On behalf of (and at the expense of) the Territorial Government, it also operates schools for white and mixed-blood children and, in addition, is responsible for the education of Eskimos in northern Quebec.

Curricula in the schools of the Northwest Territories is adapted to the special needs and living habits of the people. Recently, provision has been made for vocational training and the education of adults, and for correspondence courses for those unable to receive classroom instruction. To accommodate the children of nomadic Eskimos and Indians, denominational hostels are being built (at federal expense) in certain of the centres in which there are federal day schools; they are then operated by the Anglican or Roman Catholic churches.

Federal Government Roles.—In addition to the responsibility of the federal Department of Northern Affairs and National Resources for education in the Northwest Territories, the Indian Affairs Branch of the Department of Citizenship and Immigration, in co-operation with the provinces, administers Indian schools throughout Canada; the Department of National Defence, also in co-operation with the provinces, operates schools on military stations in Canada and in Europe and operates three Canadian Services Colleges in Canada; the Department of Justice provides schooling in the penitentiaries; and the Department of Veterans Affairs has a program of education in veterans hospitals as well as correspondence courses for veterans, federal civil servants, and inmates of penitentiaries. Vocational training in the provinces is assisted by the Training Branch of the Department of Labour.

Higher education is aided by federal grants to universities and by the provision of fellowship, scholarship, bursary and loan funds. Research grants are made by a number of departments and agencies of the Federal Government. In the field of adult education, the Federal Government's participation is through such channels as the newly created Canada Council for the Encouragement of the Arts, Letters, Humanities and Social Sciences, the Canadian Citizenship Branch of the Department of Citizenship and Immigration, the Canadian Broadcasting Corporation, the National Film Board, the National Museum and the National Gallery. These phases of education are dealt with in Part II of this Chapter, pp. 357-370.

Section 2.—Statistics of Schools, Universities and Colleges

Educational institutions in Canada are herein grouped under four captions: provincially controlled schools, privately controlled schools, universities and colleges, and federal schools which include schools in the Territories, schools for Indians and schools for children of Armed Forces personnel overseas. The first three groups are dealt with in this Section, while information on Indian schools, with the exception of enrolment figures shown in Table 2, is included with the general material on the Indians of Canada given in the Population Chapter, at pp. 166-170.

The provincially controlled schools, both public and separate, are most numerous and account for about 90 p.c. of the total enrolment shown in Table 1.

**1.—Enrolment in Educational Institutions,¹ classified by Type of School and by Province,
School Year 1956-57**

Type of School	New- foundland	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario
	No.	No.	No.	No.	No.	No.
Provincially Controlled Schools—						
Elementary and secondary.....	108,108	21,967	160,299	131,054	893,417	1,097,501
Evening classes.....	337	354	4,431	4,219	81,000 ²	82,768
Correspondence courses.....	75	69	4,518	807	3,300	3,203
Schools for the blind.....	—	—	146	—	200	180
Schools for the deaf.....	—	—	162	—	608	381
Teacher-training— ³						
Full-year course.....	—	46	330	397	7,863 ⁴	4,007
Short courses.....	—	—	—	—	267	724
Federally Controlled Schools—						
Indian.....	—	38	159	476	2,388	7,538
National Defence (overseas).....	...	...	...	...	...	...
Northwest Territories.....	...	...	...	...	...	...
Privately Controlled Schools—						
Academic (including Quebec independent)....	82	1,333	5,254	2,332	90,658	21,412
Business Training—						
Day classes (full-time).....	--	--	467 ⁵	357	16,600 ²	{ 5,263
Evening classes, part-time, correspondence, etc.	--	--	218	279		
Universities and Colleges—³						
Full-time, university-grade.....	750	310	4,540	2,800	25,700	23,800
Part-time, extension and summer school, university-grade.....	400	—	1,300	1,500	10,000	13,000
Other (not university-grade) ⁶	—	200	200	400	20,000	22,000
Totals.....	109,752	24,317	182,024	144,621	1,152,001	1,290,659
	Manitoba	Saskatchewan	Alberta	British Columbia	Yukon and N.W.T.	Canada ¹
	No.	No.	No.	No.	No.	No.
Provincially Controlled Schools—						
Elementary and secondary.....	165,260	184,837	234,397	260,177	1,792	3,258,809
Evening classes.....	2,024	7,391	4,774	21,983	—	209,281
Correspondence courses.....	2,687	11,221	9,134	11,961	—	46,975
Schools for the blind.....	—	—	—	50	—	576
Schools for the deaf.....	31	148	122	153	—	1,605
Teacher-training— ³						
Full-year course.....	481	488	1,120	—	—	14,732
Short courses.....	—	—	—	—	—	991
Federally Controlled Schools—						
Indian.....	4,647	4,338	4,704	6,240	307	30,835
National Defence (overseas).....	...	...	...	...	...	4,504
Northwest Territories.....	...	...	...	...	3,104	3,104
Privately Controlled Schools—						
Academic (including Quebec independent)....	8,468	3,261	4,990	13,351	—	151,141
Business Training—						
Day classes (full-time).....	1,155	755	1,298	902	—	} 46,346
Evening classes, part-time, correspondence, etc.	4,687	1,114	2,040	2,329	—	
Universities and Colleges—³						
Full-time, university-grade.....	4,500	3,400	4,100	8,200	—	78,100
Part-time, extension and summer school, university-grade.....	1,800	3,800	2,400	2,800	—	37,000
Other (not university-grade) ⁶	6,000	500	2,000	10,000	—	61,300
Totals.....	201,740	221,253	271,079	338,146	5,203	3,945,299

¹ Includes Department of National Defence (overseas). ² Estimate. ³ Degree courses for teachers given by universities included under "Universities and Colleges". ⁴ Includes Roman Catholic "Scholasticates—Normal Schools". ⁵ Includes P.E.I. ⁶ Excludes pre-matriculation enrolment.

Provincially controlled schools are financed essentially through direct taxes on property (the amount fixed by local school authorities) and provincial grants. In addition there is a much smaller number of private schools in all provinces (i.e., schools that are not conducted by publicly elected or publicly appointed boards and are not financed out of public money). At the higher education level considerable provincial support is given to the eight provincial degree-granting universities and one or more colleges in the two other provinces. Some provincial aid is given to many of the 42 degree-granting private colleges and universities and 228 (in 1955-56) colleges giving degree credit courses. In addition many of the universities and colleges are eligible for grants from the Federal Government (*see* pp. 356-357).

Agricultural colleges and schools, their location, courses offered and other pertinent information are listed in Chapter IX on Agriculture.

Direct control and operation of the public schools is in the hands of boards of school trustees which operate under provincial school law and whose members are elected or appointed usually for terms of two or three years. In several of the provinces, in addition to the unit boards in charge of a single-room rural school, and village, town or city school systems, there are unit boards in charge of larger administrative units. These are generally formed of the rural and sometimes the urban schools in a county or inspectorate, the local boards usually retaining ancillary functions. Table 2 gives the number of active boards in each province whether these are in charge of local areas or larger units, the number of official trustees appointed in lieu of boards, and the number of board members appointed and elected.

2.—School Boards and Official Trustees, by Province, 1957

Province	Boards				School Trustees ¹		Official Trustees ²	
	Boards of Larger Units	Local Boards within Larger Units	Independent Local Boards	Total	Appointed	Elected	Officials	School Boards Replaced
	No.	No.	No.	No.	No.	No.	No.	No.
Newfoundland.....	—	—	303	303	1,850	—	—	—
Prince Edward Island.....	1	—	450	451	16	1,415	—	—
Nova Scotia.....	24	1,685	53	1,762	465	5,055	—	—
New Brunswick.....	14	735	78	827	834	2,143	2	2
Quebec—								
Roman Catholic.....	—	—	1,615	1,615	18	8,036	—	—
Protestant.....	9	52	210	271	7	1,119	—	—
Ontario.....	775	6 ³	3,148	3,929	1,560	13,930	..	4
Manitoba.....	17	—	1,615	1,632	—	5,578	25	207
Saskatchewan.....	109	4,802	465	5,376	—	14,399	234	276
Alberta.....	59 ⁵	3,918	138	4,115	—	12,622	—	—
British Columbia.....	81	—	5	86	31	636	16	..
Totals.....	1,089	11,198	8,085	20,372	4,771	64,833	277	485

¹ Estimated where necessary.

² Appointed by the Minister of Education where, for some reason, a regular school board does not exist. Usually the official trustee is a school inspector or other departmental official.

³ Larger unit boards within a metropolitan unit; omitted from previous column to avoid duplication.

⁴ Probably included with independent local boards.

⁵ Includes seven county (municipal) councils which administer and operate the schools of their respective municipalities.

Subsection 1.—Provincially Controlled Elementary and Secondary Schools*

Enrolment and Attendance.—At the elementary school level, enrolments have been increasing steadily during the past decade, a trend that gives every indication of continuing.

* Academic and vocational day schools only.

The main factors responsible for increased enrolment in recent years are the high birth rate, heavy immigration and the generally high level of family income. Of importance also is the increased attention being given by school authorities to guidance and other means of keeping pupils in school; greater appreciation among the pupils and their families of the importance of completing secondary education; increased transportation facilities provided at public expense; the erection of dormitories in certain provinces; adoption of larger units of administration and the establishment of junior high schools and of composite schools to serve rural areas particularly.

Enrolment in provincially controlled schools for the latest school year available is given in Table 1 and average daily attendance is shown in Table 3.

3.—Average Daily Attendance in Provincially Controlled Schools, by Province, School Years Ended 1948-57

NOTE.—Comparable figures for earlier years will be found in previous editions of the Year Book, beginning with the 1932 edition.

School Year Ended—	Nfld.	P.E.I.	N.S.	N.B.	Que. ¹	Ont.	Man.	Sask.	Alta.	B.C.	Total ¹
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
1948.....	...	14,774	103,858	81,057	545,841	613,586	103,744	135,578	133,410	129,859	1,861,707
1949.....	59,520	14,727	107,914	82,168	566,544	638,733	105,240	135,872	136,690	138,941	1,986,349
1950.....	66,727	15,043	111,818	87,158	587,619	660,249	106,008	136,991	146,388	147,584	2,065,585
1951.....	67,638	15,310	114,285	84,923	605,955	674,901	112,749	137,606	150,013	154,077	2,117,457
1952.....	71,064	15,343	117,349	87,720	636,966	710,227	117,774	139,744	163,454	163,364	2,223,005
1953.....	77,040	16,212	126,650	95,771	671,165	775,319	124,514	142,190	173,954	176,138	2,378,953
1954.....	80,841	16,840	129,832	100,740	718,010	857,514	132,266	149,041	186,496	191,203	2,562,783
1955.....	85,443	17,553	136,496	105,690	806,209	895,938	138,199	156,945	198,519	203,600	2,744,492
1956.....	90,132	18,009	140,394	113,724	844,266	980,874	144,198	161,835	209,035	218,787	2,921,254
1957.....	96,060	18,573	144,755	118,697	914,479	1,040,684	148,857	164,813	220,419	233,983	3,101,320

¹ Quebec estimated.

4.—Total Enrolment by Grades in Provincially and Federally Controlled Schools, School Year 1956-57

Grade	Newfoundland	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba
	No.	No.	No.	No.	No.	No.	No.
Pre-grade 1.....	2,375	161	15,231	—	6,731	70,280	4,837
Grade 1.....	17,966	2,694	17,405	17,188	120,184	132,205	19,470
Grade 2.....	13,364	2,557	16,832	16,069	121,184	117,228	18,199
Grade 3.....	12,750	2,571	17,544	16,101	122,036	113,687	18,124
Grade 4.....	12,094	2,492	17,236	15,971	122,335	110,225	18,219
Grade 5.....	11,243	2,399	14,712	14,453	109,874	98,765	16,607
Grade 6.....	9,444	2,035	13,093	11,609	95,962	90,345	14,110
Grade 7.....	8,530	1,857	12,857	11,309	77,536	83,195	13,923
Grade 8.....	7,315	1,696	11,186	9,589	68,080	77,707	12,625
Grade 9.....	6,394	1,363	9,506	6,931	54,825	72,853	11,122
Grade 10.....	3,858	1,168	7,236	5,171	38,408	53,117	8,111
Grade 11.....	2,425	591 ¹	4,919	3,586	10,797	32,830	6,458
Grade 12.....	87	343 ¹	1,927	2,506	2,947	25,041	2,536
Grade 13.....	—	—	—	—	—	11,487	—
Special classes.....	313 ²	27	214	380	435	1,253	—
Opportunity classes.....	—	13	401 ³	191	1,724	7,343	508
Unclassified.....	—	—	—	—	359	—	—
Totals.....	108,108	21,967	160,299	131,054⁴	893,417⁵	1,097,501	164,849

For footnotes, see end of table, p. 346.

**4.—Total Enrolment by Grades in Provincially and Federally Controlled Schools,
School Year 1956-57—concluded**

Grade	Saskatchewan	Alberta	British Columbia	Yukon	N.W.T.	Indian Schools ⁶	Dept. of National Defence Overseas	Canada
	No.	No.	No.	No.	No.	No.	No.	No.
Pre-grade 1.....	2,221	—	2,683	2	130	2,247	578	107,476
Grade 1.....	21,123	27,397	29,978	277	522	6,769	677	413,855
Grade 2.....	20,417	26,222	28,442	257	307	4,852	656	386,586
Grade 3.....	20,464	26,050	27,970	228	298	4,396	598	382,757
Grade 4.....	19,911	26,212	27,806	244	286	3,925	577	377,533
Grade 5.....	18,114	22,958	24,562	184	180	3,036	398	337,485
Grade 6.....	15,975	20,272	21,388	140	126	2,469	267	297,235
Grade 7.....	15,438	20,021	21,871	122	116	1,584	222	268,581
Grade 8.....	14,410	18,735	20,920	120	94	1,100	196	223,773
Grade 9.....	12,116	16,472	18,590	99	60	346	156	190,833
Grade 10.....	9,549	12,670	15,222	66	41	163	100	134,880
Grade 11.....	7,031	9,665	11,205	34	23	85	42	89,691
Grade 12.....	5,130	7,723	7,987	19	8	61	25	56,290
Grade 13.....	—	—	813	—	—	—	12	12,312
Special classes.....	427 ⁷	—	175 ⁸	—	—	—	—	3,224
Opportunity classes.....	567	—	555	—	—	—	—	11,292
Unclassified.....	—	—	—	—	913	—	—	1,272
Totals.....	182,883	234,397	260,167	1,792	3,104	31,033	4,504	3,295,075

¹ Including 231 in grade 11 and 154 in grade 12 for Prince of Wales College. ² Including 258 taking commercial courses. ³ Including 133 in senior auxiliary. ⁴ Including 5,761 in vocational. ⁵ Not including 111,505 in Roman Catholic independent schools; Protestant independent schools included. ⁶ Including Indian pupils in Indian day, residential and private schools; Indian pupils in provincial schools not included. ⁷ Including 38 new Canadians. ⁸ New Canadians.

Teaching Staffs.—In 1956-57 the teaching staffs of provincially controlled elementary and secondary schools (exclusive of Quebec for which data are not available) consisted of 32,810 men and 89,892 women, a total of 122,702. Again omitting Quebec, where 28.5 p.c. of the teachers were members of religious orders, 46 p.c. of the women teachers were married. Of the total number of teachers in the nine provinces (exclusive of Quebec), about 9.5 p.c. had received little or no training. Some 13 p.c. of the teachers left the profession in mid-summer 1956.

**5.—Teachers in Provincially Controlled Schools classified according to Salary, by Province,
School Year 1956-57**

NOTE.—Comparable figures for Quebec are not available.

Salary	Nfld.	P.E.I.	N.S.	N.B.	Ont.	Man.	Sask.	Alta.	B.C.
	No.	No.	No.	No.	No.	No.	No.	No.	No.
Below \$1,025.....	601	—	192	310	97	—	—	3	—
\$1,025 — 1,524.....	1,113	246	651	376	904	96	20	8	—
\$1,525 — 2,024.....	184	413	615	1,473	1,078	115	184	80	—
\$2,025 — 2,524.....	285	80	1,473	1,110	4,567	1,589	2,315	803	1,175
\$2,525 — 3,024.....	658	60	1,113	585	7,465	1,762	1,561	1,068	1,325
\$3,025 — 3,524.....	244	23	532	464	5,194	1,028	1,811	1,814	1,358
\$3,525 — 4,024.....	149	7	309	236	4,711	511	724	893	1,265
\$4,025 — 5,024.....	129	3	432	237	6,020	608	653	1,192	2,191
\$5,025 — 6,024.....	5	1	200	51	4,426	251	360	544	1,223
\$6,025 — 7,024.....	—	—	28	15	2,708	59	46	228	492
\$7,025 and over.....	—	—	3	1	973	21	4	36	156
Unspecified.....	—	—	218	—	—	305	89	2,240	23
Totals.....	3,368	833	5,766	4,858	38,143	6,345	7,767	8,910	9,210
Median salaries..... \$	1,480	1,734	2,459	2,147	3,469	2,867	2,947	3,396	3,811

Financial Support.—The public elementary and secondary schools are financed almost wholly from money derived from local taxation and provincial grants. Fees for elementary schooling may be charged in Quebec. In a few of the other provinces nominal fees are charged for the higher secondary grades; in Newfoundland there is little local taxation and fees are generally charged.

In general, school boards submit their budgets to the local municipal councils which levy for and collect the required amounts. However, school boards in Quebec and a few in other provinces have the power to levy and collect taxes for school purposes. Assessment, on which taxes for school purposes are levied, is the total valuation of land and buildings, and sometimes improvements, personal property or business income are added in. Steps have been taken by several provinces to equalize real property assessment over large areas or even the whole province.

Each province has its own method of apportioning funds to local school boards. Grants are of two types. (1) The basic grant may be calculated on a minimum cost determined by an amount per classroom, salary and qualifications of the teacher, average attendance, etc. All provinces make some attempt to equalize educational opportunity through basing grants in part on some indication of need. (2) Special grants are paid to assist with transportation, music, arts and crafts, special classes, equipment, building costs, night classes, etc. These are largest in Quebec where there is marked emphasis on training for home industries, arts and crafts.

Newfoundland schools are largely supported from provincial funds. Tuition fees may be charged by school boards and by the boards of the colleges (actually schools of fairly high standard giving elementary and high school instruction) in the city of St. John's; and additional fees may be charged for fuel or janitor service where these are not provided by pupils or their families. There has been no local taxation until very recently and it now exists only in a few of the larger centres. The provincial government pays teachers according to experience and qualifications and some school boards supplement this amount. The province also makes annual grants for plant maintenance and repairs and for new construction.

Table 6 presents a comparative statement of the finances of school boards operating provincially controlled schools in so far as this information is available.

6.—Income of School Boards of Provincially Controlled Elementary and Secondary Schools, by Province, Fiscal Years Ended 1950-55

NOTE.—The receipts shown in this table do not include any amounts raised by loans or the sale of bonds or debentures as all revenue of this nature must be repaid ultimately with money raised by local taxation. Figures from 1914 are given in the corresponding table of previous Year Books beginning with the 1936 edition.

Province and Year	Income from—			Total Current Revenue Recorded	Debenture Indebtedness ¹
	Provincial Government Grants	Local Taxation	Other Sources		
	\$	\$	\$	\$	\$
Newfoundland ² 1950	3,430,267	—	1,078,807	4,509,074	..
1951	3,557,275	—	1,090,408	4,647,683	..
1952	4,141,417	—	1,338,336	5,479,753	..
1953	4,839,522	—	1,591,227 ^r	6,430,749 ^r	..
1954	6,239,486 ^r	—	1,323,323 ^r	7,562,809 ^r	..
1955	6,959,716	—	1,997,532	8,957,248	..
Prince Edward Island ² 1950	595,480 ^r	488,714	62,020	1,146,214 ^r	..
1951	663,309 ^r	538,504	127,255	1,329,068 ^r	..
1952	679,901 ^r	600,546	71,619	1,352,066 ^r	..
1953	793,558 ^r	683,046	61,699	1,538,303 ^r	..
1954	928,054 ^r	731,414 ^r	79,347 ^r	1,738,815 ^r	..
1955	994,249	813,908	95,389	1,903,546	..

For footnotes, see end of table, p. 348.

6.—Income of School Boards of Provincially Controlled Elementary and Secondary Schools, by Province, Fiscal Years Ended 1950-55—concluded

Province and Year	Income from—			Total Current Revenue Recorded	Debenture Indebtedness ¹
	Provincial Government Grants	Local Taxation	Other Sources		
	\$	\$	\$	\$	\$
Nova Scotia.....1950	6,103,265 ^c	5,974,035 ^c	..	12,077,300 ^c	..
1951	6,599,345 ^c	6,226,050	..	12,825,395 ^c	..
1952	6,919,130 ^c	7,371,292 ^c	..	14,290,422 ^c	..
1953	6,843,017 ^c	8,561,063	211,262	15,615,342 ^c	..
1954	8,067,936 ^c	9,591,684	216,729 ^c	17,876,349 ^c	..
1955	7,389,431	10,724,123	293,796	18,407,350	..
New Brunswick.....1950	4,803,316	6,660,199	..	11,463,515	..
1951	6,273,651 ^c	7,615,277 ^c	..	13,888,928 ^c	..
1952	6,622,009 ^c	8,288,180 ^c	..	14,910,189 ^c	..
1953	6,949,677 ^c	9,066,116 ^c	378,045 ^c	16,393,838 ^c	..
1954	6,846,278 ^c	9,581,005 ^c	503,578 ^c	16,930,861 ^c	..
1955	6,775,614	10,407,409	498,051	17,681,074	..
Quebec ² 1950	17,202,000 ^c	46,832,000 ^c	1,881,000 ^c	65,915,000 ^c	..
1951	15,910,137	50,579,638	2,479,097	68,968,872	54,138,073
1952	20,735,129 ^c	57,506,661 ^c	2,940,114 ^c	81,181,904 ^c	85,171,000
1953	25,004,169 ^c	64,978,371 ^c	3,448,005 ^c	93,430,545 ^c	110,283,000 ^c
1954	29,454,000 ^c	74,351,000 ^c	4,015,000 ^c	107,820,000 ^c	125,490,000 ^c
1955	26,420,000	76,222,000	18,802,000	121,444,000	165,935,000
Ontario.....1950	42,661,144	73,195,577	2,906,755	118,763,476	108,830,392
1951	47,355,143	91,569,593	3,776,308	142,701,044	114,648,251
1952	53,968,946	105,621,372	4,067,919	163,658,237	176,872,294
1953	57,881,260	115,351,323	5,292,181	178,524,764	217,011,443
1954	67,017,621	134,283,382	4,855,351	206,156,354	259,228,426
1955	73,649,871	145,485,189	12,404,143	231,539,203	..
Manitoba.....1950	4,086,810	12,875,011	343,165	17,304,986	7,999,186 ^c
1951	4,347,543	13,967,343	333,655	18,648,541	9,786,977 ^c
1952	4,923,118	15,672,552	334,946	20,930,616	10,889,526 ^c
1953	6,741,322	15,849,467	386,091	22,976,880	12,966,932 ^c
1954	8,302,904	17,761,570	438,125	26,502,599	16,200,884 ^c
1955	8,578,062	19,250,730	458,229	28,287,021	18,774,207
Saskatchewan.....1950	6,919,369	16,372,024	367,659 ^c	23,659,052 ^c	5,212,399
1951	7,466,027	17,750,804	404,685 ^c	25,621,516 ^c	5,815,690
1952	8,721,620	21,063,694	507,302 ^c	30,292,616 ^c	7,063,834
1953	8,531,823	23,075,560	529,322 ^c	32,136,705 ^c	10,451,011
1954	10,285,634	23,284,137	613,640 ^c	34,183,411 ^c	11,889,601
1955	11,594,469	25,145,782	722,586	37,462,837	16,110,696
Alberta.....1950	7,794,234	19,619,264	636,964 ^c	28,050,462 ^c	20,200,574
1951	9,717,500	21,879,905	865,725 ^c	32,463,130 ^c	27,284,975 ^c
1952	10,957,753	25,214,092	1,003,244 ^c	37,175,089 ^c	32,442,816 ^c
1953	12,834,292	28,135,523	1,068,409 ^c	42,038,224 ^c	41,586,816 ^c
1954	15,860,193	31,284,290	1,224,478 ^c	48,368,961 ^c	51,869,722 ^c
1955	24,979,893	26,904,108	1,521,558	53,405,559	60,563,488
British Columbia ² 1950	14,794,397	16,683,852	874,219	32,352,468	..
1951	18,198,218	22,295,568	1,392,793	41,886,579	..
1952	17,866,531	25,810,942	1,665,800	45,343,273	..
1953	15,754,155	30,340,880	1,414,574	47,509,609	..
1954	17,832,087	33,487,692	1,582,263	52,902,042	..
1955	33,992,023	25,613,837	1,755,627	61,361,387	..

¹ Net figures, after deduction of sinking funds.

² Data for the years 1950 to 1953 are for the school year ended in June; those for 1954 and 1955 have been adjusted to the calendar year to correspond with the fiscal years of the other provinces.

Subsection 2.—Private Elementary and Secondary Schools

Private schools include all those not operated by publicly elected or appointed boards. Except in Quebec, they receive no support from public funds. Instruction is similar to that given in public schools except that more tuition may be given in music, dramatics,

art, etc., and in schools under religious control there is greater emphasis on religious instruction. In most provinces there is some form of inspection or regulation by the provincial Department of Education.

Of the 1,212 private schools reporting in the school year 1956-57, 856 were in Quebec, 114 in Ontario, 130 in the Prairie Provinces, 67 in British Columbia and 45 in the Atlantic Provinces. There were 10,869 teachers. Outside of Quebec the annual salaries for lay teachers in these schools ranged from \$1,000 to \$8,000 with a median of \$2,516. Salaries for members of religious orders are omitted as they are usually only nominal. In 1956-57 there were 75,894 girls and 75,247 boys enrolled in the reporting private schools, about 48 p.c. of them in the elementary grades. At the secondary level there were 36,704 girls and 41,410 boys enrolled.

Private schools are financed largely from fees, legacies and gifts, or are supported through religious organizations. Annual fees vary widely—in 1956-57 (exclusive of Quebec) 105 schools charged no fees, three schools charged fees of \$500 or more for day pupils, seven boarding schools charged no fees, and 21 other boarding schools had fees of \$1,000 and up. The median fee in 1956-57 was \$95 for day schools and \$583 for boarding schools. Expenditures of private schools in all provinces in that year amounted to over \$33,713,000 of which \$13,117,000 was paid out in teachers' salaries.

7.—Enrolment in Private Elementary and Secondary Schools, by Province, School Years Ended 1948-57

NOTE.—Figures from 1921 will be found in the corresponding table of previous Year Books beginning with the 1937 edition.

School Year Ended—	Nfld.	P.E.I.	N.S.	N.B.	Que. ¹	Ont.	Man.	Sask.	Alta.	B.C.	Total ¹
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
1948.....	..	877	3,414	2,341	59,020	16,586	4,653	2,710	2,519	5,983	98,103
1949.....	..	951	3,894	2,504	60,000	18,251	5,348	2,625	3,630	6,334	103,537
1950.....	..	971	4,217	2,306	56,240	18,823	5,271	2,630	3,539	6,256	100,253
1951.....	..	969	4,709	2,129	55,667	20,141	6,226	3,138	3,527	6,170	102,676
1952.....	..	1,004	4,690	1,852	55,111	18,573	6,564	2,842	3,447	6,581	100,614
1953.....	..	1,029	4,990	1,650	60,395	18,100	6,749	2,886	3,515	7,072	106,386
1954.....	..	1,088	5,161	1,683	67,293	17,837	7,238	3,006	4,412	7,889	115,607
1955.....	..	1,159	5,337	1,924	69,000	17,768	8,380	2,986	4,274	8,923	119,751
1956.....	100	1,131	5,503	1,677	72,500	20,155	7,601	3,488	3,826	12,793	128,774
1957.....	82	1,333	5,254	2,332	90,658	21,412	8,468	3,261	4,990	13,351	151,141

¹ Quebec estimated.

Business Colleges.—Of the 132 business schools reporting in 1956-57 in eight provinces (exclusive of Quebec and Newfoundland), 15 were in the Maritimes, 78 in Ontario, 27 in the Prairie Provinces and 12 in British Columbia. These employed 90 men and 279 women as full-time teachers and 51 men and 134 women as part-time teachers.

In these schools, girl students far outnumbered boys and the enrolment in evening classes was greater than that in the full-time day classes. The 1956-57 enrolments in full-time day classes were 9,112 girls and 1,085 boys and in correspondence courses, 1,608 girls and 1,097 boys. The total decreased by 722 as compared with 1955-56. More than three-quarters of the full-time day students were from 16 to 19 years of age, inclusive.

Monthly fees ranged from \$7 to \$45 for day classes and from \$5 to \$25 for evening classes. Total operating expenditures for 1957 amounted to over \$3,232,379, of which \$1,387,343 went for teachers' salaries.

8.—Enrolment in Private Business and Commercial Schools (Business Colleges), by Province, School Years Ended 1948-57

NOTE.—Figures include day and evening classes. Those from 1921 will be found in the corresponding table of previous Year Books beginning with the 1937 edition.

School Year Ended—	P.E.I.	N.S.	N.B.	Que. ¹	Ont.	Man.	Sask.	Alta.	B.C.	Total ¹
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
1948.....	227	1,011	958	10,000	13,917	3,493	1,533	3,731	3,674	38,544
1949.....	214	1,070	916	10,600	12,938	3,449	1,554	2,969	3,932	37,642
1950.....	185	1,053	1,099	11,100	11,999	3,648	1,662	2,700	4,356	37,802
1951.....	152	825	958	11,700	11,101	3,084	1,595	2,694	3,408	35,517
1952.....	156	861	868	12,300	11,800	3,595	1,540	3,211	3,737	38,068
1953.....	190	817	926	12,900	11,238	3,267	1,471	3,538	3,620	37,967
1954.....	123	764	915	13,500	11,655	3,692	1,489	3,499	3,445	39,082
1955.....	599		837	14,160	11,723	4,317	1,545	3,534	3,354	40,069
1956.....	641		1,003	15,700	13,067	5,717	1,613	3,563	3,210	44,514
1957.....	685		636	16,600	14,145	5,842	1,869	3,338	3,231	46,346

¹ Quebec estimated.

Subsection 3.—Universities and Colleges

Enrolment.—Total full-time university-grade enrolment in the regular winter session at Canadian universities and colleges totalled 63,041 in the academic year 1952-53, 64,140 in 1953-54, 68,339 in 1954-55, and 72,729 in 1955-56. The estimated figure for 1956-57 was 78,100 and for 1957-58 it was 86,500; for 1958-59 it was expected to be about 95,000. Prior to 1957-58, the previous all-time high had been 83,150 in the 1947-48 academic year. Table 9 gives details of enrolment in 1954-55 and 1955-56.

9.—University-Grade Registration, by Province, Academic Years Ended 1955 and 1956

Province and Item	1954-55		1955-56	
	Under-graduate	Graduate	Under-graduate	Graduate
	No.	No.	No.	No.
Newfoundland—				
Full-time (regular session).....	482	4	573	4
Other.....	324	—	349	—
Prince Edward Island—				
Full-time (regular session).....	246	—	263	—
Other.....	—	—	11	—
Nova Scotia—				
Full-time (regular session).....	4,055	58	4,385	59
Other.....	1,023	37	1,302	186
New Brunswick—				
Full-time (regular session).....	2,259	54	2,497	47
Other.....	1,163	54	1,435	66
Quebec—				
Full-time (regular session).....	21,317	1,199	22,892	1,195
Other.....	9,935	468	9,258	420
Ontario—				
Full-time (regular session).....	20,442	1,410	21,088	1,554
Other.....	11,799	1,233	12,267	1,102
Manitoba—				
Full-time (regular session).....	4,114	98	4,215	96
Other.....	1,626	171	1,781	149
Saskatchewan—				
Full-time (regular session).....	2,614	95	3,007	88
Other.....	4,057	23	4,024	28

9.—University-Grade Registration, by Province, Academic Years Ended 1955 and 1956
—concluded

Province and Item	1954-55		1955-56	
	Under-graduate	Graduate	Under-graduate	Graduate
Alberta—				
Full-time (regular session).....	3,472	92	3,873	107
Other.....	2,102	107	2,219	109
British Columbia—				
Full-time (regular session).....	6,050	278	6,617	269
Other.....	1,981	418	2,671	460
Totals—				
Regular Session, Full-time.....	65,051	3,288	69,410	3,419
Regular Session, Part-time.....	5,952	1,582	5,521	1,584
Summer Schools and Extramural Courses.....	28,058	929	29,796	936

In 1955-56 one of about 17 full-time university-grade students in Canada was a resident of a country other than Canada. Foreign enrolment has risen considerably since the end of World War II, with a larger proportion of students from countries other than the United States and the United Kingdom coming to Canadian institutions, as shown in Table 10.

10.—Students from Other Countries in Canadian Universities, and Canadian Students in Universities in the United States and the United Kingdom, Academic Years Ended 1931-56.

Academic Year Ended—	Total Full-time University Enrolment in Canada	Students with Residence in—					Total Enrolment from Other Countries in Canada ¹	Canadians Studying in—	
		United States	United Kingdom	British West Indies	Newfoundland ¹	Other Countries		United States ²	United Kingdom ³
	No.	No.	No.	No.	No.	No.		No.	No.
1931.....	32,926	1,506	333	54	175	236	2,304	1,313	212
1936.....	35,108	2,018	156	32	133	237	2,576	1,075	262
1941.....	36,319	1,478	41	74	174	289	2,056	1,458	..
1946.....	63,550	1,116	167	263	303	507	2,356	1,636	..
1951.....	68,306	1,758	164	252	...	1,014	3,188	4,528	372
1952.....	63,485	1,515	132	259	...	1,106	3,012	4,317	380
1953.....	63,041	1,676	150	284	...	1,179	3,289	4,637	390
1954.....	64,140	1,418	179	320	...	1,401	3,318	4,775	390
1955 [*]	68,339	1,501	209	502	...	1,536	3,748	4,655	372
1956.....	72,729	1,773	281	635	...	1,586	4,275	4,990	404

¹ Before 1949 Newfoundland was considered as being a country outside Canada.

² Data from the Committee on Friendly Relations Among Foreign Students, New York, and the Institute of International Education, New York.

³ Data from the Association of Universities of the British Commonwealth, London, England. Newfoundland is included with Canada for all years.

Graduates.—Awards made during the 1954-55 session included 12,080 bachelor and first professional degrees, 1,426 master and licence degrees, 271 earned doctorates, 282 honorary doctorates and 6,249 diplomas and certificates. For 1955-56 awards included 12,978 bachelor and first professional degrees, 1,539 master and licence degrees, 266 earned doctorates, 197 honorary doctorates and 5,564 diplomas and certificates. Table 11 gives figures for graduates in most faculties for three years.

11.—Graduates from Universities and Colleges, Academic Years Ended 1954-56

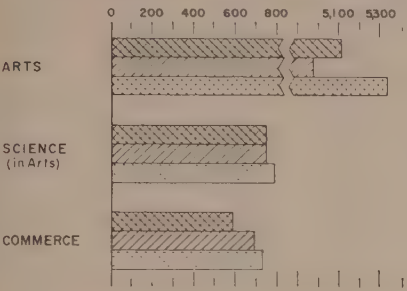
NOTE.—Figures for 1920-36 are given in the 1938 Year Book, pp. 993-997, and for 1937-53 in the corresponding table of subsequent editions.

Field of Study	1953-54 ^a		1954-55 ^a		1955-56	
	Total	Female	Total	Female	Total	Female
	No.	No.	No.	No.	No.	No.
Graduates in Arts, Pure Science and Commerce	6,453	1,770	6,424	1,728	6,861	1,795
Bachelors of Arts ¹	5,101	1,608	4,974	1,554	5,337	1,593
Bachelors of Science (in Arts) ²	756	122	753	128	791	151
Bachelors of Commerce ³	596	40	697	46	733	51
Graduates in Applied Science	1,438	6	1,512	1	1,775	6
Bachelors of Applied Science in Engineering... ..	1,252	1	1,337	1	1,597	4
Bachelors of Architecture ⁴	92	5	95	—	91	1
Bachelors of Forestry.....	93	—	75	—	81	1
Bachelors of Fisheries.....	1	—	5	—	6	—
Graduates in Agriculture, Veterinary Science and Household Science	594	271	606	267	537	227
Bachelors of Agricultural Science.....	243	14	263	4	242	7
First Degrees in Veterinary Science.....	94	—	83	3	78	3
Bachelors of Household Science.....	257	257	260	260	217	217
Teacher Diplomas and Graduates in Education, Library Science, and Social Service	1,963	..	2,108	..	2,763	..
Teacher diplomas (for secondary school teachers).....	797	..	876	..	1,312	..
First degrees in education or pedagogy.....	752	278	867	329	1,100	364
Librarian degrees and diplomas.....	105	83	83	65	80	63
Physical education first degrees and diplomas.....	101	44	76	38	83	47
Social service degrees and diplomas.....	208	149	206	141	193	139
Graduates in Medicine and Related Studies	1,986	600	2,204	801	2,124	872
Medical doctors.....	894	59	950	60	826	53
Dentists.....	160	5	174	3	160	13
Pharmacists.....	358	32	321	42	318	51
First degrees and graduate diplomas in nursing.....	386	385	591	591	628	625
Physiotherapy and occupational therapy.....	115	115	104	104	129	129
Chiropractic.....	34	2	43	1	42	1
Optometry.....	30	2	21	—	21	—
Graduates in Law and Theology	1,264	73	1,319	78	1,396	61
First degrees and equivalent diplomas in law.....	627	31	624	21	629	24
Roman Catholic theological colleges.....	423	—	441	1	499	—
Protestant theological colleges ⁵	214	42	254	56	268	37
Other First Degrees and Equivalent Diplomas	83	54	112	75	94	77
Bachelors of Fine and Applied Arts.....	13	10	16	11	12	10
Bachelors of Interior Design.....	14	11	9	6	5	5
Journalism.....	23	11	17	10	11	6
Bachelors of Music.....	33	22	70	43	66	56
Graduate and Honorary Degrees	2,165	366	2,326	434	2,321	433
Honorary doctorates.....	249	20	232	25	200	15
Doctorates in course.....	242	12	271	24	266	17
Masters of Arts ⁶	798	197	764	180	770	209
Masters of Science ⁷	376	26	374	30	402	31
Bachelors of Divinity.....	82	—	87	—	80	3
Licences (except in Theology) ⁸	185	32	223	56	237	63
Other graduate degrees and diplomas ⁹	233	79	325	119	316	100

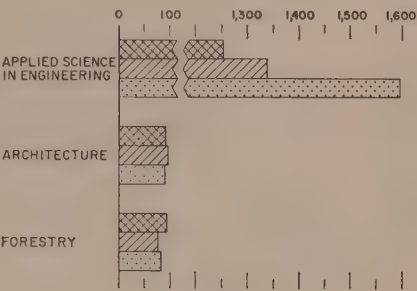
¹ Includes Bachelors of Letters and Social Science.² Some institutions include Science degrees in Arts.³ Includes Bachelors of Accounting and Secretarial Science.⁴ Includes diplomas in Architecture from the School of Fine Arts of Montreal.⁵ Includes all diplomas and degrees except for Bachelors of Divinity.⁶ Includes M. Com., M.Ed., M.Paed., M.S.W., as well as M.A. In some institutions, M.Sc. degrees are included with M.A.'s.⁷ Includes M.A.Sc., M.S.A., M.Sc.F., M.Arch., M.V.Sc., M.Sc. Dent., M. Surgery (where conferred separately), as well as M.Sc.⁸ The "Licence" in the French language universities is the next degree in advance of the Bachelor.⁹ Except diplomas for students in education and theology reported elsewhere.

GRADUATES IN SPECIFIED COURSES FROM UNIVERSITIES AND COLLEGES, ACADEMIC YEARS ENDED 1954-56

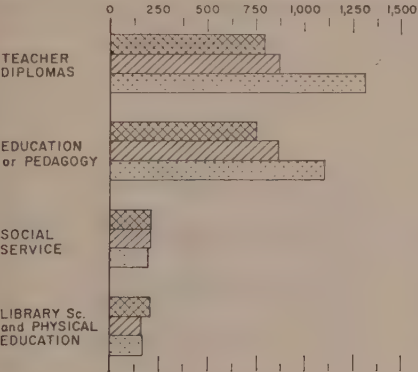
ARTS, PURE SCIENCE AND COMMERCE



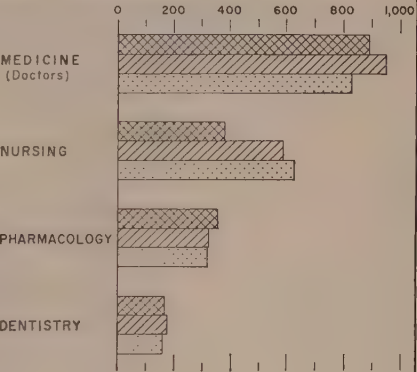
APPLIED SCIENCE



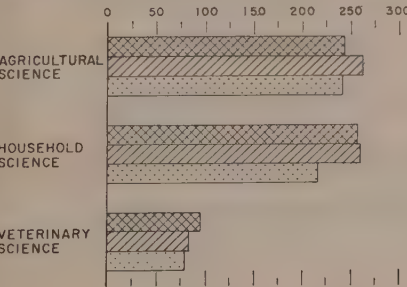
EDUCATION, LIBRARY SCIENCE AND SOCIAL SERVICE



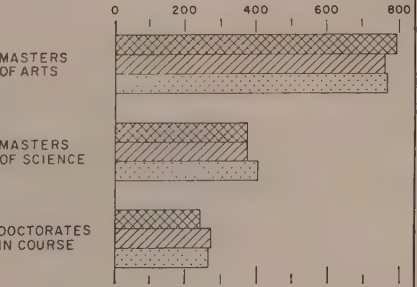
MEDICINE AND RELATED STUDIES



AGRICULTURE, VETERINARY AND HOUSEHOLD SCIENCES



POST-GRADUATE DEGREES



1954 1955 1956

Teaching Staff.—Table 12 shows the trend in university teaching staffs since 1947.

12.—Teaching Complement in Universities and Colleges, Academic Years Ended 1947-56

Academic Year Ended—	Faculties of Arts and Science		Professional Schools		Totals ¹	
	Full-time	Part-time	Full-time	Part-time	Full-time	Part-time
	No.	No.	No.	No.	No.	No.
1947.....	2,814	1,002	3,078	2,478	5,246	3,441
1948.....	3,042	1,119	3,257	2,667	5,447	3,591
1949.....	2,871	1,202	3,051	2,755	5,339	3,887
1950.....	2,890	1,153	3,078	3,036	5,246	4,127
1951.....	3,126	1,260	2,557	2,826	5,539	3,902
1952.....	3,141	1,354	3,066	3,720	5,874	4,756
1953.....	3,447	1,406	3,006	4,118	6,047	5,055
1954.....	3,747	1,561	3,122	4,276	6,503	5,286
1955.....	3,701	1,300	3,110	4,533	6,474	5,237
1956.....	3,724	1,762	3,403	4,371	6,719	5,347

¹ Excludes duplication.

Table 13 gives median salaries, by rank and region, for the staffs of 17 major institutions for selected years since 1937-38 when the statistical series was begun.

13.—Median Salaries of Teachers at 17 Universities and Colleges, Selected Academic Years Ended 1938-59

NOTE.—Institutions include: *West*—Universities of Manitoba, Saskatchewan, Alberta, British Columbia; *Central*—Bishop's, McGill, Queen's, Toronto, Victoria, Trinity, McMaster, Western Ontario; *Maritimes*—Acadia, Dalhousie, St. Francis Xavier, Mount Allison, New Brunswick.

Rank and Region	1937-38 ¹	1942-43	1947-48	1952-53	1956-57	1957-58	1958-59
	\$	\$	\$	\$	\$	\$	\$
Deans.....	5,000	4,875	5,000+	7,633	9,706	11,000	12,667
West.....	5,000+	4,958	5,000+	7,633	9,700	11,250	12,500
Central.....	5,000+	5,000+	5,000+	8,875	11,750	13,667	14,773
Maritimes.....	3,350	2,833	3,875	4,916	6,667	7,500	8,500
Professors.....	4,258	4,434	5,000+	6,405	8,217	9,310	10,548
West.....	4,279	4,380	4,816	6,319	8,076	8,977	10,061
Central.....	4,492	4,744	5,000+	6,873	8,511	9,864	11,406
Maritimes.....	2,831	2,833	3,726	4,279	5,600	6,429	7,933
Associate Professors.....	3,427	3,488	4,118	5,269	6,343	7,226	8,159
West.....	3,333	3,375	3,960	5,259	6,303	7,200	8,166
Central.....	3,594	3,597	4,368	5,439	6,594	7,509	8,471
Maritimes.....	2,708	2,750	3,313	4,065	4,239	5,278	5,967
Assistant Professors.....	2,697	2,757	3,289	4,414	5,238	5,820	6,601
West.....	2,690	2,817	3,267	4,440	5,287	5,838	6,676
Central.....	2,757	2,735	3,548	4,513	5,363	5,980	6,683
Maritimes.....	2,150	2,313	2,651	3,692	4,476	4,958	5,481
Instructors and Lecturers.....	1,805 ¹	1,787	2,242	3,332	4,082	4,558	5,155
West.....	2,000	2,122	2,243	3,525	4,236	4,669	5,302
Central.....	1,802 ¹	1,777	2,192	3,350	4,069	4,583	5,223
Maritimes.....	1,846	1,846	1,846	2,500	3,421	3,529	4,194
All Staff.....	3,001 ¹	3,009	3,454	4,838	5,874	6,658	7,412
West.....	3,257	3,264	3,393	4,959	5,993	6,823	7,627
Central.....	2,801 ¹	3,101	3,696	5,023	6,135	6,911	7,633
Maritimes.....	2,600	2,188	2,722	3,726	4,619	5,194	5,772
Staff Complement..... No.	1,577	1,701	2,626	2,514	2,979	3,178	3,461

¹ In 1937-38 one institution reported 383 instructors and lecturers earning less than \$1,000. As a corresponding number were not reported in later years, many of these were presumed to be either part-time or below the rank of instructor or lecturer; the median was calculated without these persons.

² Less than \$1,000.

Finances.—Since 1952, grants from federal, provincial and municipal governments to a group of institutions representing about 80 p.c. of the total full-time university-grade enrolments have exceeded half of the total current income, less ancillary enterprises. Table 14 gives a historical series of the finances of this group of institutions. The institutions omitted are mainly those conducted by religious orders where teachers receive little or no salary and for which financial returns are consequently not comparable.

14.—Current Income and Expenditure and Capital Resources of Universities and Colleges, Academic Years Ended 1946-55

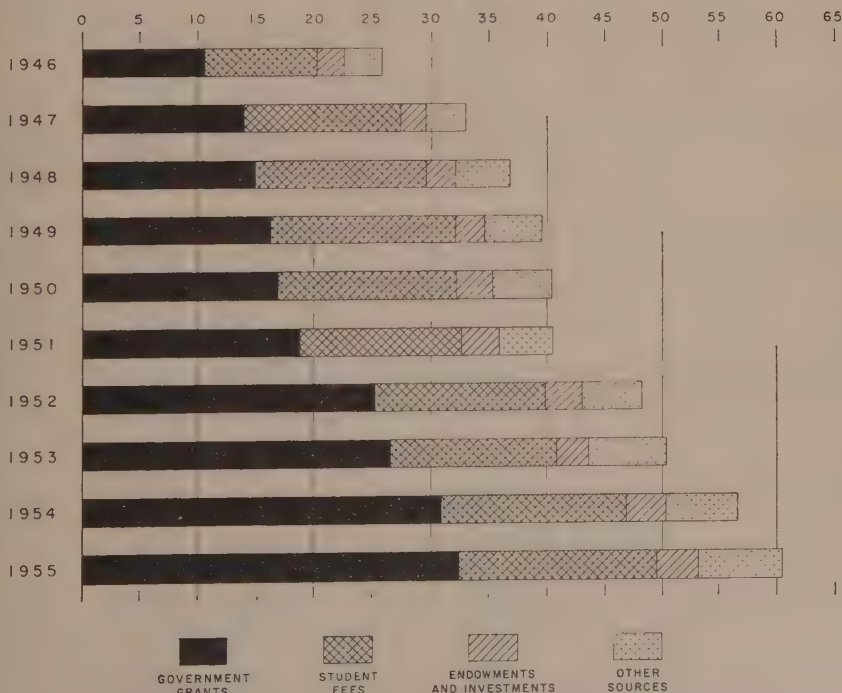
NOTE.—Institutions included represent about 80 p.c. of the total full-time university-grade enrolment.

Academic Year Ended—	Current Income					Total Current Expenditure	Capital Resources		
	Endowments and Investments	Government Grants	Student Fees ¹	Miscellaneous	Total ¹		Land, Buildings and Equipment	Endowments	Trust Funds
	\$'000	\$'000	\$'000	\$'000	\$'000		\$'000	\$'000	\$'000
1946.....	2,397	10,485	9,779	3,153	25,815	25,358	102,627	56,975	28,999
1947.....	2,314	13,768	13,636	3,203	32,921	32,889	112,409	59,208	34,397
1948.....	2,387	14,863	14,903	4,689	36,842	36,664	123,248	63,724	42,302
1949.....	2,568	16,218	15,959	4,845	39,590	39,197	139,779	69,012	43,093
1950.....	2,950	16,959	15,409	5,140	40,458	40,697	150,178	84,410	37,821
1951.....	3,127	18,733	14,025	4,647	40,532	40,792	162,372	82,702	34,686
1952.....	3,185	25,284	14,544	5,208	48,221	47,195	181,393	81,737	37,507
1953.....	2,979	26,554	14,260	6,675	50,468	50,116	191,920	82,502	38,503
1954.....	3,517	30,918	15,901	6,421	56,757	55,856	198,316	94,000	44,166
1955.....	3,533	32,417	17,248	7,316	60,514	60,009	221,837	103,941	41,597

¹ Board and lodging not included.

SOURCES OF INCOME OF UNIVERSITIES AND COLLEGES, ACADEMIC YEARS ENDED 1946-55

MILLION DOLLARS



The Federal Government established a system of university grants for current operating purposes, the first of which were paid during the academic year ended 1952. The grants were paid on the basis of 50 cents per head of population in each province, the eligible institutions receiving their shares of the total provincial allotment according to the number of full-time students at university level attending degree or graduate diploma courses. For 1956-57 and 1957-58 the payment was \$1 per head of population and for 1958-59 it was increased to \$1.50 per head of population. The distribution of payments, by province, is shown in Table 15.

15.—Federal Government Grants to Universities, by Province, Academic Years Ended 1952-58

Province and Academic Year Ended—	Institutions	Eligible Enrolment	Total Grants ¹	Grant per Eligible Student	
	No.	No.	\$	\$	
Newfoundland.....	1952	1	374	180,700	483.15
	1953	1	407	187,000	459.46
	1954	1	401	191,500	477.56
	1955	1	505	199,000	394.06
	1956	1	576	206,000	357.64
	1957	1	740	415,074	560.91
	1958	1	1,011	426,000	421.36
Prince Edward Island.....	1952	2	267	49,200	184.27
	1953	2	251	51,500	205.18
	1954	2	253	53,000	209.49
	1955	2	245	52,500	214.29
	1956	2	260	54,000	207.69
	1957	2	310	99,285	320.27
	1958	2	350	99,000	282.86
Nova Scotia.....	1952	13	3,475	321,250	92.45
	1953	13	3,430	326,500	95.19
	1954	13	3,696	331,500	89.69
	1955	12	3,948	336,500	85.23
	1956	12	4,224	341,500	80.85
	1957	12	4,470	694,717	155.42
	1958	13	4,740	702,000	148.10
New Brunswick.....	1952	6	1,893	257,800	136.19
	1953	6	1,815	263,000	144.90
	1954	6	2,014	268,000	133.07
	1955	6	2,231	273,500	122.59
	1956	6	2,483	279,000	112.36
	1957	6	2,775	554,616	199.86
	1958	6	3,087	565,000	183.03
Quebec ²	1952	5	19,273	2,027,800	105.21
	1957	6	23,898	4,628,378	193.67
	1958	7	26,806	4,758,000	177.50
Ontario.....	1952	27	18,203	2,298,750	126.28
	1953	27	17,593	2,383,000	135.45
	1954	27	16,939	2,448,500	144.55
	1955	27	17,896	2,523,000	140.98
	1956	27	18,801	2,591,500	137.84
	1957	29	20,723	5,404,933	260.82
	1958	30	22,346	5,622,000	251.59
Manitoba.....	1952	7	3,932	388,250	98.74
	1953	7	3,953	399,000	100.94
	1954	7	4,051	404,500	99.85
	1955	7	4,171	414,000	99.26
	1956	7	4,180	424,500	101.56
	1957	8	4,430	850,040	191.88
	1958	8	4,796	860,000	179.32

For footnotes, see end of table.

**15.—Federal Government Grants to Universities, by Province, Academic Years
Ended 1952-58—concluded**

Province and Academic Year Ended—	Institutions	Eligible Enrolment	Total Grants ¹	Grant per Eligible Student
	No.	No.	\$	\$
Saskatchewan.....1952	14	2,301	415,850	180.73
1953	14	2,314	421,500	182.15
1954	14	2,424	430,500	177.60
1955	14	2,684	439,000	163.56
1956	14	2,925	444,500	151.97
1957	14	3,327	880,665	264.70
1958	14	3,827	879,000	229.68
Alberta.....1952	4	2,844	469,750	165.17
1953	5	2,937	485,000	165.13
1954	4	3,171	501,000	157.99
1955	4	3,297	519,500	157.57
1956	4	3,558	533,000	149.80
1957	4	3,873	1,123,116	296.89
1958	5	4,322	1,160,000	268.39
British Columbia.....1952	4	5,664	582,600	102.86
1953	4	5,457	599,000	109.77
1954	5	5,616	615,000	109.51
1955	5	6,005	633,000	105.41
1956	5	6,563	652,500	99.42
1957	5	7,930	1,398,464	176.35
1958	5	9,311	1,487,000	159.70
Totals².....1952	83	58,226	6,991,950	120.08
1953	79	38,157	5,115,500	134.06
1954	79	38,565	5,243,500	135.97
1955	78	40,982	5,396,000	131.52
1956	78	43,570	5,526,500	126.84
1957	87	72,476	16,049,288	221.44
1958	91	80,596	16,558,000	205.44

¹ See text on p. 356 for basis of grant. ² Institutions in Quebec accepted payment only in 1951-52, refusing from 1952-53 to 1955-56. For 1956-57, and subsequent years, payments refused will be held in trust by the National Conference of Canadian Universities until the institutions see fit to accept them. In 1957-58, one institution accepted the grant.

During the 1956-57 academic year, plans were announced by the Federal Government for the distribution of \$50,000,000 to Canadian universities and colleges for new construction and capital equipment projects. The grants are made in an amount not exceeding 50 p.c. of the cost of specific building or capital equipment projects, with appropriate regard to the population of each province. The University Capital Grants Fund is administered by the Canada Council, which came into existence on Mar. 28, 1957. Up to Mar. 31, 1958, 12 institutions received a total of \$4,084,300 in capital grants. The Council was also endowed with an additional \$50,000,000 for the provision of scholarships and other assistance in the fields of the arts, humanities and social sciences. (See pp. 363-365.)

PART II.—CULTURAL ACTIVITIES RELATED TO EDUCATION*

Section 1.—Art and Education†

Fine Art Schools, Galleries and Museums.—Fine art appears as an elective subject of the faculty of arts in a number of universities, where it may be taken as one of five, six or more subjects for a year or two. In Mount Allison University, N.B., and in

* An outline of the *Report of the Royal Commission on National Development in the Arts, Letters and Sciences*, which was tabled in Parliament on June 1, 1951, is given in the 1952-53 Year Book, pp. 342-345. Available from the Queen's Printer, Ottawa.

† Revised under the direction of Alan Jarvis, Director, National Gallery of Canada, Ottawa.

the Universities of Saskatchewan and Manitoba, there is a sufficient number of courses to allow the taking of a Bachelor degree with specialization in fine art. At the University of Toronto an Honour B.A. in art history and archaeology is offered, as well as graduate work in this field. Departments of fine art were opened by McGill University in 1948-49, by the University of British Columbia in 1949-50 and by the University of Alberta in 1953-54; McMaster University reopened its department in 1951.

Confusion is often caused by the fact that some universities stress the history of art and others its practice. In 1959 the National Gallery sponsored a conference of university art departments, and a movement was begun towards the attainment of a proper ratio between the number of courses in history and practice of art. A recommendation was also made for the establishment of a second centre of graduate studies (in addition to that at Toronto), preferably in Montreal.

There are also schools of art not requiring any fixed academic standing for admission, as they are more concerned with the technical development of the artist. The most widely known of these are:—

- Nova Scotia College of Art, Halifax, N.S.
- École des Beaux-Arts, Quebec, Que.
- École des Beaux-Arts, Montreal, Que.
- School of Art and Design, Montreal Museum of Fine Arts, Montreal, Que.
- Ontario College of Art, Toronto, Ont.
- University of Manitoba School of Art, Winnipeg, Man.
- Provincial Institute of Technology and Art, Banff School of Fine Arts,
Banff, Alta. (affiliated with the University of Alberta) Calgary, Alta.
- Vancouver School of Art, Vancouver, B.C.

Courses in these schools vary in length with the requirements of the individual student but may extend over as many as four years. Summer schools of art are sponsored by some of the foregoing institutions, by universities, and by various independent groups.

Public art galleries and museums in the principal cities perform valuable educational services among adults and children. Children's Saturday classes, conducted tours for school pupils and adults, radio talks, lectures and often concerts are features of the programs of the various galleries. Many of these institutions supply their surrounding areas with travelling exhibitions, and organizations such as the Maritime Art Association, the Western Canada Art Circuit, the Saskatchewan Arts Board and the Art Institute of Ontario, have been founded to carry on the work on a regional basis. The National Gallery of Canada has a nation-wide program of this nature.

The principal art galleries and museums* are:—

- Beaverbrook Gallery, Fredericton, N.B. (opening in 1959)
- New Brunswick Museum, Saint John, N.B.
- Museum of the Province of Quebec, Quebec, Que.
- Montreal Museum of Fine Arts, Montreal, Que.
- National Gallery of Canada, Ottawa, Ont.
- London Public Library and Art Museum, London, Ont.
- Art Gallery of Toronto, Toronto, Ont.
- Royal Ontario Museum, Toronto, Ont.
- Art Gallery of Hamilton, Hamilton, Ont.
- Willistead Library and Art Gallery, Windsor, Ont.
- Winnipeg Art Gallery, Winnipeg, Man.
- Mackenzie Art Gallery, Regina, Sask.
- Edmonton Museum of Arts, Edmonton, Alta.
- Vancouver Art Gallery, Vancouver, B.C.
- Arts Centre of Greater Victoria, Victoria, B.C.

* A complete list of Canadian art museums, societies and schools is included in the Canadian section of the current issue of the *American Art Directory* (R. R. Bowker Co., New York).

Other Art Organizations.—The leading art organizations of national scope, exclusive of museums and art galleries, include the following:—

Association of Canadian Industrial Designers
 Canadian Arts Council*
 Canadian Group of Painters
 Canadian Guild of Potters
 Canadian Handicrafts Guild
 Canadian Museums Association†
 Canadian Society of Graphic Arts
 Canadian Society of Painter-Etchers and Engravers
 Canadian Society of Painters in Water Colour
 Canadian Society of Landscape Architects and Townplanners
 Community Planning Association of Canada
 Federation of Canadian Artists
 Royal Canadian Academy of Arts
 Royal Architectural Institute of Canada
 Sculptors Society of Canada.

The National Gallery of Canada, Ottawa.—Founded in 1880 by the Marquis of Lorne, the National Gallery at first served only as an exhibition gallery. Provided with an Advisory Arts Council in 1907, and first incorporated under a Board of Trustees in 1913, it has assembled a permanent collection mainly during the past 45 years. This collection of pictures and sculpture, prints and drawings, representing the styles, past and present, of various parts of the world, was assembled for public enjoyment, study, and the improvement of arts and industrial products, and as the necessary basis of a program of art education. The National Gallery Act, amended in 1951, gave the institution a larger Board of Trustees and other advantages.

The collection of the National Gallery today is of international repute and is accessible to the whole country by means of catalogues, photographs, colour reproductions and, to a limited extent, by loans. The Canadian section, naturally the most inclusive, is the best available source for the study of Canadian art. Each year, examples of the best contemporary work are added, along with those of earlier periods. The most important recent additions to the European section were 12 famous old water paintings purchased from the Prince of Liechtenstein's collection.

The National Gallery conducts a program of extension work throughout the country. The majority of its special exhibitions are available to the entire country and are widely circulated. About 30 such exhibitions are toured and as many as 200 separate showings have been held annually under the auspices of the National Gallery of Canada. In addition, individual loans of material from the collection are made to centres in many parts of the country each year. In this way original works of art are constantly being brought to the attention of the public. Sets of reproductions are also sent on tour of localities that have not the facilities for handling originals.

An Industrial Design Division has been set up as the result of public interest in bringing the design of Canadian goods up to the best international standards and in fostering distinctive Canadian designs, and a number of exhibitions on Canadian industrial art have been held in various parts of the country. The Design Centre in the Daly Building, Ottawa, serves as an exhibition centre and as headquarters for the national program in industrial design sponsored by the National Gallery.

Other methods of education in the arts apply more specifically to young people and are designed, in part, to supplement regular school work. The Gallery provides written lectures illustrated by lantern slides on all aspects of art history, reproductions of paintings with introductory texts for art appreciation, school broadcasts, classes for school children

* An account of the Canadian Arts Council and a list of its constituent bodies appears in the 1951 Year Book, p. 308.

† Formed in 1947 with the object of improving the services of museums as educational institutions by promoting co-operation among themselves, by exchange with other countries and by the training and securing of expert staffs.

at the Gallery, exhibitions of children's art, conducted tours of the Gallery's collections and educational demonstrations. Lecture tours by well known authorities are also held throughout Canada.

The National Gallery also maintains a library of art films. The facsimile colour reproductions published by the National Gallery are listed in a leaflet, available on request. The magazine *Canadian Art* (address: P.O. Box 384, Ottawa) in the founding of which the National Gallery took a leading part, has attained a large circulation.

The *Report of the Royal Commission on National Development in the Arts, Letters and Sciences* made recommendations for the extension and improvement of the Gallery's exhibition and education services; increases in funds, staff and facilities; maintenance or increase of appropriations for acquisitions; and a new building containing adequate facilities for display, storage, circulation of exhibitions and conservation of paintings. Many of these recommendations are being carried out and a new National Gallery is under construction; it is scheduled for opening late in 1959.

Further details concerning recent purchases, exhibitions and lecture tours arranged by the National Gallery are contained in the *Annual Report of the Board of Trustees*.

Section 2.—The Educational and Cultural Functions of the National Film Board*

The National Film Board, an agency of the Federal Government, was established by Act of Parliament in 1939 and reconstituted by the National Film Act in 1950. In the years since its establishment, the Board has grown from a supervisory body over Canadian Government motion picture activities to a national documentary film-producing and -distributing organization whose films about Canada are seen wherever people may freely assemble. The Board also produces and distributes filmstrips and still photos on Canadian themes in accordance with its primary function outlined in the Act "to initiate and promote the production and distribution of films in the national interest". Films are produced primarily in the English and French languages, and, whenever possible, foreign language versions are prepared to increase the usefulness of Board films in foreign countries.

The 16mm. community film program in Canada is based on a nation-wide system of film circuits, film councils and libraries, strongly supported by organizations and individuals engaged in community activities. At Mar. 31, 1958, some 478 film councils—voluntary groups promoting the use of documentary films—were serving communities throughout Canada, together with 508 film libraries and depots from which thousands of 16mm. prints are available for public circulation. These prints are acquired by purchase or by loan from the Board.

Slightly more than one-half of the 16mm. community film audience recorded by the Board during the year was reached through classroom showings, indicating further progress in the development of audio-visual aid programs in Canadian schools and universities. Another noticeable trend was the more selective use of films by community organizations and groups for particular purposes. This is attributed in part to the recent availability of Board productions which present series of film studies related to central themes. For example, a series of thirteen films, *The Commonwealth of Nations*, which examined the history and development of the Commonwealth, was given wide promotion and circulation among Canadian schools and study groups following its initial showing over English and French television networks.

Films produced by the Board are shown in commercial theatres and on television in Canada and abroad. Theatrically, films are released in the series *Canada Carries On* and *Eye Witness* (*En Avant Canada* and *Coup d'Oeil* in French), and newsreel features are also regularly issued for theatrical and television purposes. Distribution of theatrical subjects is arranged by contract with commercial distributing organizations.

* Prepared, under the direction of the Government Film Commissioner, in the Research and Reports Division of the National Film Board, Montreal, Que.

An increasing proportion of the Board's production and distribution program is initially concerned with television at home and abroad. Series of original films are shown regularly over English and French language television networks in Canada. In addition, individual films from the Board's extensive general library are available to CBC and privately operated stations. Abroad, because of expanding television facilities in many countries, Board films are seen by audiences which could not otherwise be reached.

In addition to commercial distribution through theatres and television in other countries, 16mm. print circulation is carried on through posts of the Departments of External Affairs and Trade and Commerce, through National Film Board territorial offices in London, England, New York and Chicago in the United States, and New Delhi in India, as well as through libraries operated by various educational agencies. Hundreds of prints of National Film Board films are also sold in other countries each year. Exchange agreements are in effect between the Board and government film-producing organizations in other lands; this means that films of various nations are freely exchanged with Canada, aiding better international understanding.

The National Film Board maintains a library of more than 100,000 still photographs, which are available at nominal cost to magazines, newspapers and other periodicals wishing to present current information about Canada.

Section 3.—The Educational and Cultural Functions of the Canadian Broadcasting Corporation

Many hours of educational or semi-educational programs are broadcast annually by the Canadian Broadcasting Corporation in English and in French. Whether these programs are directed to children or adults, entertainment is combined with information whenever possible. Spoken-word programs cover a very wide range of interests and are presented as readings, talks, discussions, documentary programs, dramatizations or in forms combined with music.

Pre-school Broadcasts.—Though many story programs for pre-school-age children are broadcast purely as entertainment, a special series has been developed to give young children, particularly in remote areas, many of the benefits of kindergarten training. This series, *Kindergarten of the Air*, is broadcast Monday to Friday for children from three and a half to six years of age. Planned with the advice of kindergarten experts, it includes stories, songs, simple games and development exercises, and encourages good habits of hygiene, eating and relaxation.

During the 1958-59 season a new series of television programs for children of nursery school age was presented daily. *Nursery School Time*, the title of the new series, came into being as a result of the enthusiastic reception accorded a similar series presented as a 13-week experiment in the spring of 1958. Produced on alternate days from Toronto and Montreal, *Nursery School Time* is planned by experts in the field of training three-and-a-half to five-year-olds, and provides a TV counterpart for the radio series *Kindergarten of the Air*.

School Broadcasts.—In an average school year, more than 1,000 school programs, mostly in dramatized form, are broadcast to all parts of Canada. The CBC provides facilities for 30-minute daily programs specifically planned by Departments of Education to meet classroom requirements. These are supplementary aids to help teachers stimulate student imagination and strengthen motives for study. The National School Broadcasts series are planned by the National Advisory Council on School Broadcasting to promote among students a stronger consciousness of Canada and its achievements. During the 1957-58 season programs for students in grades 4 to 13 were presented in eight sub-series. The most popular, a nature series for students of grades 4 to 6, was *Voices of the Wild*. Other series were *I Was There*, first-hand accounts of great moments in Canada's history; *The Return of Nanna-Bijou*, concerning the conservation of natural resources; *Julius*

Caesar, a radio treatment of Shakespeare's play; *Music in the Making*, in which radio drama and symphony orchestra were combined to heighten student appreciation of Schubert's work; *Life in Canada Today*, actuality visits to Canadians at work; *Commonwealth Roundup*, radio visits to people living in other Commonwealth countries; and *What's in the News*, a weekly up-to-the-minute commentary on outstanding news events.

An experimental television program for school use was presented during November 1954, and a second series in April 1956. Approximately 1,850 classes with over 60,000 students in all provinces viewed the second series. In the report on teachers' evaluations of this experiment, the National Advisory Council on School Broadcasting concluded that "television has definite value as a teaching aid in the school classroom; the programs should be closely correlated with the curriculum, and further experiments should be undertaken at the local or provincial level".

During 1958 two such experiments were carried out by local and provincial educational authorities in co-operation with the CBC. The Halifax Board of School Commissioners carried out a three-week experiment in which nine programs for use by schools in Halifax and environs were produced by CBC Halifax. The report issued by the Halifax educators arrived at similar conclusions to those of the National Advisory Council on School Broadcasting. The second experiment was carried out by the Manitoba Department of Education. It consisted of six programs for students of grades 7 to 11 in Manitoba schools within the reception areas of Manitoba television stations. Here again, the educators concluded that television in schools can be a valuable teaching aid.

Adult Education.—Programs of an adult education nature are presented frequently by the CBC on its radio and television services. In the planning of these programs co-operation is received from various educational organizations. The CBC is an active participant in the work of the Joint Planning Commission, a body established by the Canadian Association for Adult Education for exchange of information and co-ordination of plans for adult education in Canada.

Radio Programs.—*Citizens' Forum*, which has been telecast for the past three years, is a round-table program on which a panel of informed speakers who hold varying viewpoints discuss important issues of the day. It is arranged jointly by the Canadian Association for Adult Education and the CBC. Its French counterpart, *Les idées en marche*, which is carried on television as well as radio, is planned in co-operation with La Société Canadienne d'Éducation des Adultes. Similar types of programs prepared specially for rural listeners are *National Farm Radio Forum* and *Le choc des idées*, arranged by CBC in co-operation with the Canadian Federation of Agriculture and the Canadian Association for Adult Education. All these forum programs are heard by organized listening groups, which continue the discussion of the topic at the conclusion of the broadcast.

For the past seven summers the evening sessions of the Couchiching Conference have been broadcast. This week-long conference, organized jointly with the Canadian Institute on Public Affairs, examines Canadian and international affairs in open meetings and group discussions. Other programs of an educational nature are *Cross Section*, a series of radio documentaries dealing with economic and social questions; various dramatized series in the field of human relations and mental health; *Science Review*, which examines important discoveries in the field of the natural sciences and their branches; *Business Barometer*, designed to inform listeners of developments in Canada's economic life; *Anthology*, a literary program with emphasis on Canadian writers; *Trans-Canada Matinée*, a daily afternoon program including informative talks and commentaries designed specially for the woman in the home; and *University of the Air*, a series varying from four to eight talks prepared and broadcast by distinguished professors in their specialized fields. On the French network *Les voisins d'en face*, prepared in conjunction with L'École de Parents, presents a series of programs relating to parents and children; and general questions sent in by parents are answered by psychologists in the series *Le Courrier de radio-parents*. For women listeners, the daytime program *Fémina* is presented three times a week.

The French network also broadcasts a number of weekly programs dealing with fine arts, music, literature, theatrical arts, sciences, religion and philosophy, under the auspices of *Radio-Collège*. These broadcasts are not designed for classroom use, being of a more adult nature than the School Broadcasts on the English language networks and scheduled, in the main, for other than school hours. In addition, talks on a wide range of subjects including international affairs, Canadian history and community activities are broadcast regularly over the various networks.

Television Programs.—In addition to *Citizens' Forum*, programs which are carried regularly on both radio and television are *Press Conference*, in which people who make the news are questioned by those who report it; and *Fighting Words*, in which guest experts in various fields discuss controversial quotations sent in by viewers.

Open House, a daily program for women, presents information on a wide variety of commodities and services, and interviews with people of note. Important world news of the preceding week is discussed by a panel each Sunday night on *This Week*. *Explorations*, a series of drama documentaries which examines questions in the fields of sociology and the natural sciences, was one of seven CBC programs to win First Awards at the 1957 Exhibition of Educational Radio and Television Programs at Columbus, Ohio. Programs in the field of parent-education and mental health are also telecast.

Portions of the afternoon sessions of the Winter Conference of the Canadian Institute on Public Affairs were telecast. This three-day weekend conference examined sociological questions in open meetings and group discussions.

On the French network *C'est la vie* investigates various professions and callings; *Pays et merveilles* presents illustrated discussions of life in other countries; and *Profils d'adolescents* considers topics and problems of interest to teenagers.

Section 4.—The Canada Council

On Feb. 15, 1957, the House of Commons passed an Act for the Establishment of a Canada Council for the Encouragement of the Arts, Humanities and Social Sciences. The continuing objects of this body are to foster and promote the study and enjoyment of, and the production of works in, the arts, humanities and social sciences. The expression, "the arts" is defined by the Canada Council Act as: architecture, the arts of the theatre, literature, music, painting, sculpture, the graphic arts, and other similar creative and interpretative activities. The Council, in furtherance of its objects, may (a) assist, co-operate with and enlist the aid of organizations, the objects of which are similar to any of the objects of the Council; (b) provide a scheme of scholarships, fellowships and other grants to persons in Canada for study or research in the arts, humanities and social sciences in Canada or elsewhere, and to persons in other countries for study and research in the same subjects in Canada; (c) make awards to persons in Canada for outstanding accomplishment in the arts, humanities and social sciences; (d) arrange for and sponsor exhibitions, performances and publications of works in the arts, humanities and social sciences; (e) exchange with other organizations or persons and with other countries knowledge and information respecting the arts, humanities and social sciences; (f) arrange for representation and interpretation of Canadian arts, humanities and social sciences in other countries. In addition, the Canada Council may be assigned by the Governor in Council such functions and duties in relation to the United Nations Educational, Scientific and Cultural Organization (UNESCO) as he considers desirable.

The Council is a corporation consisting of a Chairman, a Vice-Chairman and nineteen other members, all appointed by the Governor in Council. The Chairman and Vice-Chairman are appointed for terms not exceeding five years and the other members for terms of three years each. After serving two terms, members of the Council, including the Chairman and Vice-Chairman, are not eligible for re-appointment during the twelve months following completion of the second term. The principal officers of the organization are the Director and the Associate Director, also appointed by the Governor in Council, the Treasurer and the Secretary. The Council is not an agent of the Crown, but its officers and employees are considered to be employed in the Public Service for the purposes of the Public Service Superannuation Act. The Council is deemed to be a charitable organization in Canada.

The continuing work of the Council will be financed by income from a permanent Endowment Fund of \$50,000,000 and by a University Capital Grants Fund of \$50,000,000, both to be paid out of the Consolidated Revenue Fund. The latter Fund and the income it earns will be completely expended by the Council over an unspecified but presumably short period of years. This Fund will enable the Council to make grants to universities and other institutions of higher learning by way of capital assistance in respect of building projects, with the following limitations: (a) a grant for any one project may not exceed one-half the total expenditures made in respect of that project; (b) in any province the aggregate of the grants made may not exceed an amount that is in the same proportion to the aggregate amount credited to the University Capital Grants Fund as the population of the province (latest census) is to the aggregate population of the provinces in which there is a university or other similar institution of higher learning. The Canada Council is also permitted to expend and administer any gifts and bequests it may receive.

To aid and advise the Council in making, managing and disposing of investments under the Canada Council Act, an Investment Committee has been set up consisting of the Chairman of the Council, one other member of the Council designated by the Council, and three members appointed by the Governor in Council. Proceeds from the sale or other disposition of any investments made out of the Endowment Fund or the University Capital Grants Fund are credited to the Fund out of which the investment was made. Investments out of money standing to the credit of the University Capital Grants Fund are made only in bonds or other securities of, or guaranteed by, the Government of Canada.

The Governor in Council appoints a member of the Queen's Privy Council for Canada to whom at the end of each fiscal year the Chairman reports all proceedings under the Canada Council Act for that fiscal year, including the financial statements of the Council and the Auditor General's report thereon. Provision is made for a review of these reports by Parliament.

By Mar. 31, 1958, the Council had made, provided for, or authorized awards as follows: scholarships, fellowships and other awards for 450 persons in the amount of \$860,000, of which about 80 p.c. were for awards in the humanities and social sciences; grants to organizations representing the arts, humanities and social sciences, \$740,000, of which the larger portion was for the arts; grants for capital assistance to universities in respect of building construction projects, \$4,084,300.

Income from the Endowment Fund for the year ended Mar. 31, 1958, was \$2,368,819. Administrative expenditures (including those occasioned by the University Capital Grants Fund, the UNESCO program and the purchase of office furniture and equipment) were \$180,316. Total of authorized grants made from the Endowment Fund was \$1,416,632. Surplus available for carryover into 1958-59 and further expenses, grants and awards was \$771,871.

In accordance with Order in Council dated June 14, 1957, the Council established the National Commission for UNESCO and named 26 members and 30 organizations with "co-operating body status".

Section 5.—Library Services

The National Library.—The National Library of Canada, authorized by the National Library Act of June 18, 1952 (1 Eliz. II, c. 330), came into existence formally on Jan. 1, 1953. The Act provides for the establishment of an Advisory Council consisting of 15 members, including at least one representative from each of the ten provinces; the appointment of a National Librarian, an Assistant Librarian and other personnel. The duties of the National Librarian include the establishment of a National Union Catalogue listing the books in every important collection in Canada; the purchasing of book stock; and the publication of a National Bibliography listing books published in Canada, written by Canadians, or of special interest to Canadians.

Since its establishment, the Library has continued to expand its activities in temporary quarters while awaiting the erection of a new building. The first stage of the *National Union Catalogue*, which lists the holdings of larger public reference, government, university and special libraries, was completed in November 1958. Included were data for two libraries in Newfoundland, two in Prince Edward Island, 19 in Nova Scotia, five in New Brunswick, 14 in Quebec, 73 in Ontario, four in Manitoba, three in Saskatchewan, four in Alberta and 10 in British Columbia.

Statistics on interlibrary loans facilitated by the Catalogue demonstrate its usefulness to scholars and research workers across the country. An average of more than 700 requests a month are being filled, about half of which are dealt with by university libraries, one-quarter by public libraries and the remainder by special libraries and through other sources.

Canadiana, issued monthly, provides an up-to-date inclusive bibliography of materials of Canadian origin and interest for the use of libraries, the publishing trade and others. Altogether, 8,271 items were listed in 1956.

In addition to Canadian books, the National Library is acquiring material in other subject fields, especially in the humanities, music and the social sciences.

Public Libraries.—Library service is provided for the Canadian public by several types of library organization. Free, tax-supported libraries, some with extensive branch systems, serve most of the larger centres of over 10,000 population and about half of the smaller centres served. Non-profit association public libraries, privately controlled and operated, serve a few of the larger centres and the remainder of the smaller centres. Regional libraries, including a number of municipalities and rural areas within each unit, supplement or take the place of independent libraries in smaller centres and are developing rapidly in almost every province. Travelling and open-shelf libraries operated by provincial government agencies and universities serve more remote areas in most provinces by sending out boxes of books by rail, mail, aircraft or boat, and by supplying books to individuals on request.

All types of public libraries are experiencing substantial increases in most forms of activity, particularly in the expansion of services to boys and girls, regional library development and the planning and construction of library buildings—despite the fact that the number of trained librarians available to staff library services remains about the same. The many new library buildings being erected in communities where there were previously

no library services, and the additions and renovations to established libraries, have resulted in this era being described as the most active period of library building since the days of Andrew Carnegie. The style, however, is no longer monumental, but open and inviting, with large windows and entrances through which may be seen the busy attractive interiors.

Regional and semi-urban library developments are making increasing use of book-mobiles and other forms of mobile service to bring books to schools and other community centres.

Canadian children are responding to library services offered to such an extent that library figures show the circulation of books in the boys' and girls' departments to be about half of the total circulation, although the population of the 5-to-14 age group represents only about one-quarter of the total population over five years of age.

Surveys of libraries for the year 1957 included public libraries in centres over 10,000 population, all regional public libraries and travelling and open-shelf libraries serving the public. In 1956 the libraries in larger centres represented 85 p.c. of the population served, 70 p.c. of the bookstock, 82 p.c. of the circulation, 88 p.c. of the expenditures and 90 p.c. of the full-time staff for all municipal and association public libraries. Statistics for these public libraries for 1957 are given in Table 1.

1.—Summary Statistics of Public Libraries 1957^a

Province	Libraries or Bor- rowers ¹	Popu- lation Served	Bookstock ²	Circulation	Current Operating Expenditures	Full- time Staff
LIBRARIES IN CENTRES OF 10,000 POPULATION OR OVER						
	No.	No.	No.	No.	\$	No.
Newfoundland.....	2	80,303	61,808	115,997	139,741	21
Prince Edward Island.....	1	16,707	..	47,339	17,715	4
Nova Scotia.....	3	124,695	102,501	358,652	140,695	28
New Brunswick.....	3	106,797	79,300	218,956	79,430	13
Quebec.....	31	1,838,629	1,209,057	1,988,482	759,114	231
Ontario.....	53	3,026,220	3,570,505	18,115,414	5,405,823	948
Manitoba.....	9	383,031	262,039	1,348,521	392,385	84
Saskatchewan.....	5	223,194	257,249	1,127,329	430,972	77
Alberta.....	5	470,408	409,952	2,259,344	707,788	128
British Columbia.....	9	662,123	662,206	4,356,183	1,420,005	284
Totals.....	121	6,932,107	6,614,617	29,936,217	9,493,668	1,818
Estimate for all municipal and association public libraries....	..	8,155,400	9,449,400	36,483,200	10,813,300	2,020
LIBRARIES ORGANIZED FOR REGIONAL COLLABORATION						
	No.	No.	No.	No.	\$	No.
Newfoundland.....	1	180,000	191,858	563,260	..	10
Prince Edward Island.....	1	99,285	97,506	255,033	38,566	7
Nova Scotia.....	4	244,727	132,201	843,572	149,095	24
New Brunswick.....	1	36,003	25,836	99,627	11,089	4
Ontario.....	15	1,015,954	288,123	2,318,690	246,946	36
Saskatchewan.....	1	31,764	31,188	103,857	36,979	4
Alberta.....	2	24,000	39,241	120,087	27,475	3
British Columbia.....	3	341,229	278,009	1,674,248	328,473	49
Totals.....	28	1,972,962	1,083,962	5,978,374	838,623	137

For footnotes, see end of table

1.—Summary Statistics of Public Libraries 1957^P—concluded

Province	Libraries or Borrowers ¹	Population Served	Bookstock ²	Circulation	Current Operating Expenditures	Full-time Staff
TRAVELLING AND OPEN-SHELF LIBRARIES						
	No.	No.	No.	No.	\$	No.
Newfoundland.....	3	..	3	3	4	3
Quebec.....	1,084	..	27,754	36,147	14,725	4
Ontario.....	..	..	53,500	71,500	46,100	7
Manitoba.....	10,700	..	30,000	87,002	40,000	8
Saskatchewan.....	18,378	..	106,500	131,760	..	10
Alberta.....	6,800	..	47,324	120,746	48,386	11
British Columbia.....	14,516	..	171,664	141,367	141,037	25
Totals.....	51,478	..	436,742	588,522	290,248	65

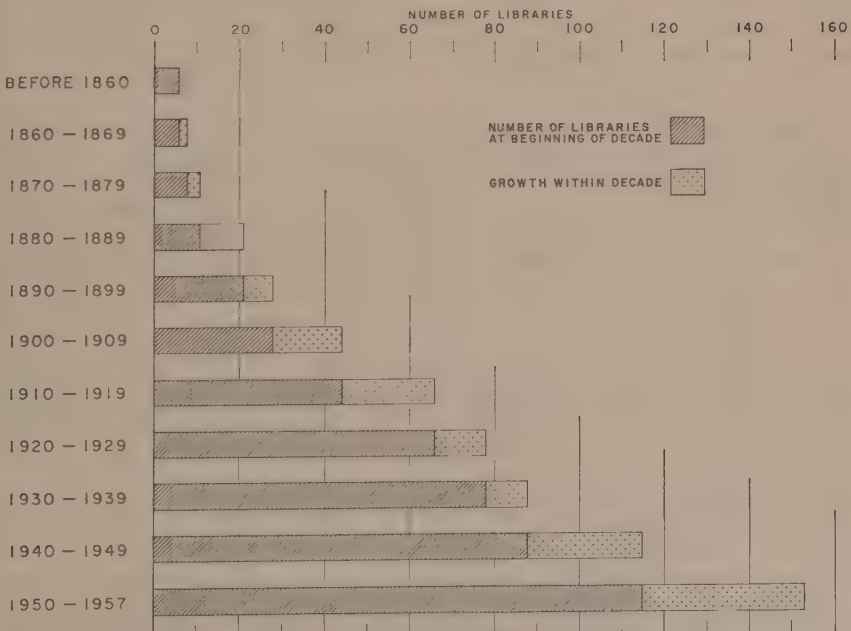
¹ Borrowers in the case of travelling and open-shelf libraries.

² Includes books for adults, boys and girls

and reference books. ³ Included with Newfoundland regional libraries.

⁴ Included with expenditures of Newfoundland libraries in centres of 10,000 population or over.

GROWTH OF PUBLIC LIBRARY SERVICE
INCLUDING REGIONAL, TRAVELLING AND OPEN-SHELF LIBRARIES
(CENTRES 10,000 POPULATION AND OVER)



SOURCE: D.B.S. SURVEY OF LIBRARIES, 1957

Academic Libraries.—The 1956 survey of libraries included 263 university and college libraries, 171 of which were in institutions classified as French or bilingual, according to the language of instruction. More than 50,000 volumes each were reported by 35 of these, and 67 had full-time library staffs of two or more. New buildings are being provided for many university and college libraries as part of an over-all expansion of university facilities and for this purpose funds from the Canada Council, from private benefactors and from community organizations are being used.

In 1957, only the libraries in universities with full-time student enrolments of 500 or more were surveyed. These libraries represented about 90 p.c. of the full-time enrolment, 55 p.c. of the volumes, 66 p.c. of the expenditure and 73 p.c. of the full-time staff of all university and college libraries, according to 1956 figures. Results of the 1957 survey are given in Table 2.

2.—Summary Statistics of Libraries in Universities with Full-time Student Enrolment of 500 or Over, 1957^a

Province	Libraries	Full-time Student Enrolment	Bookstock	Current Operating Expenditures	Full-time Staff
	No.	No.	No.	\$	No.
Newfoundland.....	1	1,011	40,000	43,125	7
Nova Scotia.....	5	3,104	313,703	119,452	17
New Brunswick.....	2	2,429	163,511	97,321	19
Quebec.....	5	24,729	1,330,552	719,881	150
Ontario.....	12	22,569	1,875,541	1,215,518	235
Manitoba.....	2	4,024	241,581	177,569	36
Saskatchewan.....	1	3,073	163,451	148,850	28
Alberta.....	2	4,231	194,875	227,050	36
British Columbia.....	2	9,261	431,252	505,134	82
Totals.....	32	74,431	4,754,466	3,253,900	610
Estimate for all university and college libraries.....	..	83,150	8,644,500	4,930,200	835

Salaries of Professional Library Employees.—Public libraries in centres over 10,000, regional public libraries, travelling and open-shelf libraries and university libraries employ most of the professional librarians in the country. Median salaries, based on reports from these libraries for 1957, by type of library and position, are given in Table 3.

3.—Median Salaries of Professional Library Employees, by Type and Size of Library, 1957^a

Position	Libraries in Centres with Populations of—			Regional and Travelling Libraries	University Libraries	Total Professional Employees
	10,000-24,999	25,000-99,999	100,000 or Over			
	\$	\$	\$	\$	\$	No.
Chief librarian.....	4,292	5,111	6,643	4,375	6,750	122
Deputy chief librarian.....	3,750	4,417	5,750	4,050	6,000	49
Head of branch or division.....	3,750	4,167	4,875	3,844	4,615	210
Other professional librarians.....	3,250	3,350	4,070	3,357	3,590	486

Government, Professional, Business and Technical Libraries.—The latest figures available for such libraries are those collected in the survey of 1956. In addition to the summary given in Table 4 it may be mentioned that 45 of these libraries reported collections of films and 68 reported microfilm collections.

**4.—Holdings and Staffs of Government, Professional, Business and Technical Libraries,
by Province, 1956**

Item	Libraries	Volumes	Staff		Professional Librarians (Full-time and Part-time)
			Full-time	Part-time	
	No.	No.	No.	No.	No.
Newfoundland—					
Federal Government.....	1	1,931	1	—	—
Provincial Government.....	4	12,600	4	—	1
Professional, business and technical.....	1	6,938	1	—	—
Prince Edward Island—					
Provincial Government.....	1	10,500	7	1	—
Professional, business and technical.....	1	4,503	—	1	—
Nova Scotia—					
Federal Government.....	7	28,300	5	2	2
Provincial Government.....	9	130,259	30	6	11
Professional, business and technical.....	6	20,026	3	1	—
New Brunswick—					
Federal Government.....	2	6,200	2	1	1
Provincial Government.....	8	104,585	20	3	10
Professional, business and technical.....	2	14,140	1	2	—
Quebec—					
Federal Government.....	11	34,819	38	4	10
Provincial Government.....	14	315,941	73	32	18
Professional, business and technical.....	69	491,490	221	32	55
Ontario—					
Federal Government.....	72	1,754,403	384	22	125
Provincial Government.....	20	266,562	50	4	13
Professional, business and technical.....	66	345,467	146	42	40
Manitoba—					
Federal Government.....	2	4,000	2	—	1
Provincial Government.....	4	104,127	19	5	6
Professional, business and technical.....	6	64,125	12	4	3
Saskatchewan—					
Federal Government.....	4	13,099	4	—	1
Provincial Government.....	11	98,657	16	8	10
Professional, business and technical.....	3	14,755	6	3	2
Alberta—					
Federal Government.....	4	14,394	6	—	1
Provincial Government.....	18	115,349	19	6	1
Professional, business and technical.....	2	1,600	2	1	—
British Columbia—					
Federal Government.....	6	12,177	4	4	3
Provincial Government.....	15	279,224	52	15	14
Professional, business and technical.....	12	40,638	13	10	3
Totals—					
Federal Government.....	109	1,869,323	446	33	144
Provincial Government.....	104	1,437,804	290	80	64
Professional, Business and Technical.....	168	1,003,682	405	96	103

**Section 6.—Canada and the United Nations Educational,
Scientific and Cultural Organization**

In the words of its constitution, the purpose of the United Nations Educational, Scientific and Cultural Organization (UNESCO) is "to contribute to peace and security by promoting collaboration among the nations through education, science and culture in order to further universal respect for justice, for the rule of law, for human rights and fundamental freedoms".

Total membership in the Organization numbers 80 states. The structure of the Organization includes three principal organs—the General Conference, the Executive Board, and the Secretariat. The General Conference is the policy-making body. It meets every two years and its main functions are to consider applications for membership, elect the Executive Board, plan the program and approve the budget for the ensuing two-year period.

In accordance with resolutions adopted at the 1956 General Conference held in New Delhi, India, UNESCO is now working actively on three major projects: the extension of primary education in Latin America; scientific research on arid lands; and the mutual appreciation of the cultural values of the Occident and the Orient. The 1958 General Conference held in Paris in November 1958 adopted plans to further these projects and to carry out other activities in UNESCO's program areas of education, natural sciences, social sciences, cultural activities, mass communications, technical assistance and exchange of persons. The Organization's budget for 1959-60 is approximately \$26,000,000. At the Canadian assessment level of 2.96 p.c., Canada's contribution over the two-year period is in the neighbourhood of \$750,000.

In Canada, the Department of External Affairs discharges the responsibilities arising from membership in an international intergovernmental organization. It has the advice and assistance of the Canadian National Commission for UNESCO which was established by the Canada Council in August 1957. The National Commission is the agency responsible for co-ordinating Canadian participation in UNESCO's program both at home and abroad. Twenty-six representatives of voluntary organizations and public bodies constitute the formal membership of the Commission. Part of this membership is chosen on a rotating basis, biennially, from a group of over 40 national voluntary organizations associated with the Commission as "co-operating bodies". The National Commission also has a number of consulting members who represent government agencies. It held its inaugural meeting in February 1958. The Commission's secretariat is located in Ottawa at the Headquarters of the Canada Council.

PART III.—SCIENTIFIC AND INDUSTRIAL RESEARCH

Section 1.—The National Research Council*

History and Organization.—Organized research in Canada on a national basis dates from 1916 when the Government of Canada established the Honorary Advisory Council for Scientific and Industrial Research under a Committee of the Privy Council. Provision was made for the planning and integration of research work, organization of co-operative investigations, postgraduate training of research workers, and prosecution of research through grants-in-aid to university professors. This was the basis of the Council's work from 1916 to 1924.

A Special Committee of Parliament, appointed to study a recommendation for establishing national laboratories, endorsed the proposal and the Research Council Act was revised by Parliament in 1924. Temporary laboratories were secured and research on utilization of magnesian limestone for refractories was carried out so successfully that a wartime industry, established during World War I, was re-established on a large scale. As a result of this achievement the Government, in 1929-30, provided funds for new laboratories.

The National Research Building on Sussex Drive, Ottawa, was opened in 1932, and in 1939 construction was begun of the aerodynamics building on a 130-acre site on the Montreal Road just east of the city. Later, other buildings were erected on this site, including woodworking and metalworking shops and separate laboratories for research on engines, gas and oil, hydraulics and structures. These facilities have since been enlarged and extended and new buildings have been provided for engineering, low-temperature

* Prepared by John R. Kohr, Public Relations Office, National Research Council of Canada, Ottawa.

studies, and high-speed aerodynamics. In 1952 a cosmic ray laboratory, a thermodynamics building, and a large structure to house the Division of Applied Chemistry were added; in 1953 the Building Research Centre was completed. The same year, development began on a new 250-acre site on the opposite side of the road, where the new headquarters for the Radio and Electrical Engineering Division was constructed. In 1958, a unique Fire Research Laboratory was added to this site as part of the facilities of the Division of Building Research. An underpass connects the two areas.

A Prairie Regional Laboratory built on the University of Saskatchewan campus has been in operation since June 1948 and an Atlantic Regional Laboratory, on the campus of Dalhousie University at Halifax, N.S., was opened in June 1952. The Division of Building Research has established one of the most northerly building research stations in the world at Norman Wells, N.W.T. Completing its long-term plan for regional activities, the Division has also established a small Pacific Regional Station at Vancouver, in co-operation with the British Columbia Research Council.

The National Research Council consists of the President, two Vice-Presidents (Scientific), one Vice-President (Administration) and 17 other members, each of the latter group being appointed for a term of three years and chosen to represent industry, labour or research in one of the basic natural sciences. Many of the members are drawn from the science departments of Canadian universities.

The Council's scientific and engineering activities are organized in nine divisions and two regional laboratories, each with its own director. Five laboratory divisions are concerned with fundamental and applied studies in the natural sciences: applied biology, applied and pure chemistry, and applied and pure physics. Three others are devoted chiefly to engineering work—building research, mechanical engineering which includes aeronautics and hydraulics, and radio and electrical engineering. The Division of Medical Research has no laboratories but awards grants-in-aid and fellowships tenable chiefly in the medical schools of Canadian universities.

Links with Industry.—In addition to its basic research foundations, the Council operates a Technical Information Service. Through a trained research staff, using the extensive library facilities available to the Council, it is usually possible to provide any required information at very short notice. A free and constant flow of personnel and information is maintained between the Council laboratories and industrial laboratories, the aim being to have Canadian industry use the Council's laboratories just as the units of a large company use their own laboratories as a source of scientific information and assistance. The Council also undertakes for any firm, under contract, research problems that cannot be solved by private consulting and testing laboratories and, in return, obtains assistance from many companies. The Council has long-standing and intimate contacts of this co-operative kind with many Canadian industries in various fields.

Associate committees were established by the National Research Council early in its history and have been continued to date. Hundreds of specialists have accepted invitations from the Council to serve on committees and have brought their knowledge and experience to bear on the solution of research problems put before them. Members of committees give their time and effort to these special studies without charge and their assistance is a source of great strength to the Council.

Foundation Aspects.—Assisted research grants have been made by the Council since its inception in 1916. These awards are given to heads of university science departments to purchase needed equipment and to employ junior helpers, usually students. Aid of this kind has been of considerable assistance in enabling the universities to put into operation the excellent graduate schools that now exist in Canada. In 1958-59 more than \$5,900,000 was provided out of Council funds for basic research at Canadian universities.

Scholarships and grants-in-aid of research are awarded annually by the National Research Council. Scholarships awarded in science and engineering include Bursaries and Studentships which have values of \$1,000 and \$1,200 respectively for the academic year,

to which a summer supplement of \$800 may be added. In addition, Special Scholarships valued at \$2,000 a year and Postdoctorate Overseas Fellowships at \$2,700 (single) and \$3,500 (married) are offered. The Council also offers Graduate Medical Research Fellowships valued at from \$2,000 to \$5,000 depending upon academic qualifications and research experience. A limited number of Medical Research Associates are also appointed to research positions in the medical schools of Canadian universities. Graduate Dental Research Fellowships are also available. In 1958-59, 338 different awards were made totalling \$522,500.

Since 1948, the National Research Council has awarded Postdoctorate Fellowships in open competition to Canadians and nationals of other countries, which are tenable in the Council's own laboratories. The diversity of training and experience brought to the laboratories by these keen young scientists has had such a stimulating effect on the research effort that the program has been further expanded in recent years; Fellowships are also tenable in the science departments of Canadian universities and in the laboratories of other Federal Government Departments, such as Agriculture, Mines and Technical Surveys, and National Health and Welfare. More than 200 of these awards are being held at the present time, mostly in the fields of chemistry, physics and biology.

Principal Activities in 1957-58

The activities of each Division are described in outline only, with occasional brief examples. The work of the Atlantic and Prairie Regional Laboratories is treated separately at pp. 376-377.

Applied Biology.—This Division's work includes applied investigations related to the national economy, and fundamental studies in microbiology, biochemistry and biophysics as a basis for future application in agriculture, medicine or industry. Because fewer large-scale industries are directly interested in biology, industrial laboratories undertake far less research in the biological sciences than in the physical sciences. Of the wide diversity of biological problems urgently in need of investigation, the Division undertakes those considered to be most timely and most unlikely to receive early attention elsewhere. Much of the work is undertaken in co-operation with industry or for government agencies.

Co-operative work in 1957-58 included statistical studies of the protein content of western Canadian hard red spring wheat at different shipping points; a study of wind chill as a factor in caribou mortality in Arctic regions; an international expedition to investigate the aborigines of Central Australia as examples of adaption of human races to cold climates; and improved design and operating procedure of railway cars for the transport of perishables. Also investigated were the freezing and marketing of poultry, the humane slaughtering of animals, and the applicability of a jacketed cold room, previously developed for storage of frozen commodities, to controlled atmosphere storage of fruit.

Fundamental studies directed to extending the storage life of foods by irradiation, and applied investigations on the effects of irradiation on the rate of development of rancidity in bacon, were begun. Investigation continued on the fast-death factor in a strain of blue-green algae toxic to sheep, cattle and other animals, the transport of sugars and other foodstuffs produced by photosynthesis in plant leaves to other organs of the plant, and the structure and development of plant cells and their constituents.

Other work includes chemical and physical measurements on macromolecules of biological origin, and studies concerning micro-organisms related to the preparation, preservation and spoilage of food. A culture collection of about 3,000 bacteria, yeasts and fungi is maintained.

Applied Chemistry.—The Division of Applied Chemistry is concerned with the best uses of Canadian resources and with chemical problems of wide general interest. While much of the work could be included under the general heading of petroleum chemistry, other subjects of active interest are metallurgical chemistry and corrosion, textiles and detergent, rubber, chemical engineering and high polymers.

Engineering and developmental aspects of individual projects, including several for Canadian industry, have been undertaken. Among these are the oxidation of ethylene to chemical intermediates, the activation of clay used in contact bleaching of oils and the cracking of petroleum oils, sedimentation of suspensions, and potential application of the newly developed spouted solids technique for contacting fluids and solids.

The range of a method for determining the molecular weights of chemical compounds and polymers has been extended to include materials in the molecular weight range 40,000-100,000. The effect of acids and bases on the rates of oxidation of inhibited and non-inhibited liquid hydrocarbon has been examined to gain further information on the mechanism of oxidation of petroleum products.

Preliminary work has been done toward the use of fluorescent and phosphorescent markings on letters for automatic sorting methods. These types of markings avoid many of the difficulties encountered in automatic sorting, and it would appear that a very satisfactory system should result. Work has continued on a thermoplastic rubber adhesive for bonding rubber to metal; this adhesive, derived from natural rubber, is stable and improves with age.

Several interesting new types of textile damage have been studied and synthetic detergents are being examined. The textile laboratory co-operates with the Canadian Research Institute of Launderers and Cleaners to maintain high operating standards in Canadian cleaning establishments. Assistance is given to government departments on problems such as the moth-proofing, rot-proofing and moisture-proofing of textiles. Other work involves problems of applied catalysis, gas phase chemical reactions, effect of high pressures on chemical reactions, heterogeneous catalysis, and physical-organic and analytical chemistry.

Pure Chemistry.—The Division of Pure Chemistry is organized around a nucleus of outstanding Canadian chemists who direct about twice their own number of young postdoctorate Fellows from all over the world. The work consists of long-range, fundamental investigations in the fields of physical and organic chemistry. Although the products of pure curiosity seem far removed from ordinary life the Division's experts are frequently invited to speak to groups of applied chemists and other scientists employed in Canadian industry. They also lecture in universities.

There are thirteen sections in the Division: organic chemistry, mostly on the structure of alkaloids; organic spectrochemistry; organic synthesis; chemical kinetics and photochemistry; mass spectrometry; molecular spectroscopy; surface chemistry and low temperature calorimetry; thermochemistry; activated carbon, inorganic and general chemistry; intermolecular forces and physical properties; fibre research; chemistry of fats and oils; and general physical chemistry.

Applied Physics.—The work in applied physics is divided between research projects likely to be of practical value and the continual development of the fundamental standards on which measurements generally are based. All the fundamental physical standards for Canada are housed and serviced in this Division, which now has primary standards equal to any in the world in the fields of mass, length, light, electricity, temperature and radiation.

Research on methods of establishing standards in new areas where there is as yet no international agreement has received increased attention. Determination of some of the limits of accuracy of the International Temperature Scale in its present form, and investigation of the possibility of replacing some of its fixed points at a later date, is in progress. Work in the Interferometry Section contributed importantly to an international decision late in 1957 concerning the redefinition of the international metre in terms of a wavelength of light.

The Division is also working to meet a sharply increased demand for research to aid industry. Problems of noise abatement involving the development of a special ear defender, and the silencing of suction rolls in paper mills have received considerable attention, and work is under way concerning centrifugal blowers and nail-making machines.

Research on mapping methods particularly suited to Canadian conditions has led to the development of a new instrument called the "Analytical Plotter", which uses electronic computations rather than optical projections for plotting maps from aerial photographs. The instrument is smaller than previous models and involves fewer mechanical components. It also permits correction by electronic computation of all known errors in the mapping process and indicates eventual automation of mapping.

Other problems currently under investigation include measurement of the thermal and electrical properties of a number of ceramics and oxides; detailed studies toward the realization of an improved primary standard of light; assessing the thermal insulation of fabrics in winds; and monitoring of artificial radioactivity in the atmosphere to study the movement of air masses, as part of the International Geophysical Year program.

Pure Physics.—Investigation is under way on cosmic rays, solid state physics, spectroscopy, X-ray diffraction and theoretical physics. The work is on various fundamental problems which do not have immediate application but advance the frontiers of knowledge and supply the basis for further progress in the applied fields.

Much of the cosmic ray work has been associated with the International Geophysical Year. Four cosmic ray stations—at Resolute, Churchill, Sulphur Mountain and Ottawa—provide data used to study intensity variations in relation to theories about the source of cosmic rays and their modulation by interplanetary matter shot out from the sun. The results show interesting differences between long-term intensity variations associated with the sunspot cycle and shorter period changes that sometimes correlate with magnetic disturbances.

The studies of the low temperature and solid state physics group cover three main fields: metals, semi-conductors and semi-metals, and insulators. An extensive experimental study of the transition metals has been completed; a new theory of the processes of strain hardening has been developed and a new type of phase transition in solids has been discovered. Progress has continued in the understanding of compound semi-conductors in terms of crystal structure and chemical bonding; research on the thermal properties of the inert gas solids continues.

The spectroscopy group has continued its investigations of the spectra of simple atoms and molecules; the theoretical physics group has been mostly concerned with general field theories and theoretical nuclear physics. X-ray diffraction work has involved the determination of the crystal structure of several organic compounds and minerals; additional programs have been written for crystallographic computation on FERUT and IBM 650 computers. The X-ray group played a major role in the organization of the Fourth General Assembly, International Congress, and Symposia of the International Union of Crystallography held at McGill University in the summer of 1957.

Building Research.—The search for technical improvements in housing dominates the work of this Division; considerable attention is paid to problems concerning the National Building Code of Canada and to fundamental studies on soil, snow and ice mechanics.

New laboratories for paint research and acoustical research and testing have been provided. A newly installed test floor and structural steel testing frame will enable the structural testing of housing components of all kinds to loads of up to 50 tons at several points. A unique fire research building provides facilities for full-scale wall and floor structure fire resistance tests, chemical and physical laboratories, a special room for carrying out model burns, and space for research into the hydraulic aspects of fire fighting and fire prevention. Fully instrumented fire tests to record in detail fire progress in structures were conducted on eight buildings abandoned in connection with the St. Lawrence Seaway Project.

Special attention has been paid to techniques that permit winter construction, including enclosure of construction projects and use of materials such as precast concrete. Studies in economical housing design have resulted in a standard roof truss, economical

to build and easy to install, which will soon be available to the public. Detailed studies, including construction of modular houses, are being made on standardization of dimensions in building design and materials, called "modular co-ordination".

Building materials research has involved the study of an unusual type of cement aggregate causing accelerated deterioration of concrete, investigations of brick and mortar, and the study of setting mechanisms of plaster. Other wide-scale studies under way include snow and wind loads on buildings; a study of avalanches along the route to be followed by the Trans-Canada Highway, which will also provide information on the mechanical properties of snow; laboratory studies on the strength of floating sheets of ice; and investigations concerning shallow foundations, houses on flat slabs, and problems of swelling and shrinking clay.

Mechanical Engineering.—The work of this Division lies mainly in the fields of mechanics, hydrodynamics (hydraulic engineering and naval architecture), aerodynamics and thermodynamics. Extensive work has been undertaken for a variety of industries and for government departments.

Demands for mechanical engineering research and development have continued, but with a number of important new trends. An extended series of tests for various aspects of the St. Lawrence Seaway has given place to new hydrodynamic investigations of both immediate and long-range application on problems of river and harbour improvement and optimum design of navigation locks and earth-fill dam spillways. Methods of improving paper-making machines gave rise to a laboratory study of the flow of pulp in pipelines to provide an analysis of the mechanics of flow. Towing tests, self-propulsion tests and flow studies were carried out on a variety of ship models, as well as full-scale sea trials and performance analyses of four types of ship.

Several laboratories have increased their theoretical and experimental work on problems of aircraft for short and vertical take-off. Such aircraft appear to be on the verge of practicability, and would prove extremely useful for transport in undeveloped parts of Canada and for certain military purposes.

Investigations continued on highly developed aircraft structures, control systems and engines. Work was begun on such subjects as fluid contamination and high speed gas flow; continuing projects include thrust boosting of jet engines by exhaust reheat, and anti-icing work on turbojet and turboprop engines and helicopter rotor blades.

Recent mechanics developments include the evolution of a suturing device and technique for joining severed blood vessels, and an automatic position indicator for crashed aircraft. The new medical technique was developed in collaboration with two surgeons. It is extremely satisfactory experimentally, even for small blood vessels, and should simplify the implanting of grafts replacing diseased sections of arteries. The crash position indicator, developed with the Radio and Electrical Engineering Division, automatically broadcasts distress signals for roughly a week following a crash and should enable more efficient and economical location of crashed aircraft and survivors. A special tide recorder was constructed for use in Arctic waters.

More advantageous use of Western Canada crude oils in diesel engines and gas turbines is under investigation. Other studies involve work on antifreezes; the detection of ethylene glycol in engine lubricants; and work on jet fuels, aviation gasolines, hydraulic oils and other petroleum products.

Radio and Electrical Engineering.—About half of the Division's work consists of defence projects; the remainder is devoted to fundamental research and engineering development in electronics, electrical engineering and radiophysics. Applications of interest to Canadian industry are given special attention.

Development of electronic aids to navigation continued, with devices such as a transistorized switch for buoy lights, and transistorized buoy flashers. Microwave equipment to provide accurate position-fixing for hydrographic vessels is being developed.

A radar display for visual correlation of radar returns with the flight-planned position of civilian aircraft was made. The aircraft type, altitude, and track designation are shown as a group of letters and numbers moving across the radar presentation in accordance with flight-plan data. A weather radar was installed at Penhold, Alta. This instrument has a 100-mile range and a special antenna and camera-recording system for analysis of potential hail storm centres.

Upper atmosphere research centred around meteor and aurora studies—two of the disciplines of the IGY. A meteor observatory was opened at Springhill, Ont., containing continuously operating meteor radar equipment. Auroral radar units are in continuous operation at four stations, and special 35mm. auroral cameras at nine stations photograph the entire sky once every minute.

The antenna program included work on radar scanners and search antennas, and on navigation and communication antennas. Studies are under way in the fields of electron physics and solid state physics.

An electronic detector of flaws in paper was installed and operated successfully in a paper mill. Work in medical electronics has included the development of electronic and electromechanical ground detectors to detect insulation failures in hospital operating rooms; development of a control system to maintain a predetermined blood pressure in the artificial heart-lung apparatus now commonly used in heart surgery; and a transistorized blood pressure monitor.

Medical Research.*—The chief function of the Division of Medical Research is to make grants and award fellowships in the field of medicine. For the year 1958-59 nine non-recurring equipment grants and 168 grants-in-aid of research totalling over \$766,000 were made to further medical studies in Canadian hospitals and universities. One hundred and twenty-nine grants amounting to \$567,210 were for basic medical investigations (anatomy, bacteriology, biochemistry, pathology, pharmacology, and physiology), and 39 awards in the amount of \$199,261 were in support of clinical studies. Twenty-three awards were to applicants who had not been supported in the previous year.

Twenty-one Graduate Medical Research Fellowships ranging in value from \$3,000 to \$5,000 were awarded to enable medical graduates to obtain further training in fundamental research.

Eight Medical Research Associates were appointed to Canadian universities. Candidates for these awards are holders of doctorate degrees—not necessarily in medicine—nominated by universities which provide them with faculty appointments and research facilities. Medical Research Associates have limited teaching duties, ensuring adequate time for research, and appointments may be retained indefinitely subject to the satisfaction of the Council and the university.

Atlantic Regional Laboratory.—The Atlantic Regional Laboratory studies the preservation and use of food products and some of the problems encountered by secondary industries in the area.

Problems involved in the commercial manufacture of iron and steel are under investigation. Special slip-cast magnesia crucibles have been developed which resist penetration by molten alloys and slags at 1,500° C. This permits study of the kinetics and equilibria of high temperature reactions without serious interference from the container. Attempts are being made to measure the activity of ferrous oxide in molten slags, and of oxygen in steel; analysis of commercial open-hearth slags and measurement of the rate of oxidation of carbon in steel are under way.

A systematic survey of Maritime peat bogs has been completed and their resources of wax, lignin, gums and hemicellulose as potential sources of chemical compounds have been established. The chemical composition of Maritime coast sea water has been examined, complementary to earlier studies on commonly occurring seaweeds of the area.

* See also pp. 384-385.

Fundamental differences in the products of photosynthesis of green, red and brown algae have been established. Methods have been devised for the identification and standardization of agar, which is used by all bacteriologists in the culture of micro-organisms and which is currently manufactured from several species of red algae. Studies have continued on the use of laminarin sulphate (laminarin being readily obtained from brown seaweeds) as a blood anticoagulant.

Studies of Atlantic cod skins, and photo engraving glue manufactured from them, have been undertaken. Cod skin has been found to be rich in collagen, the mother substance of glue. Investigation of the conversion of cod collagen to gelatin is under way.

Several fungi causing the formation of slime in pulp and paper mills have been identified and some commercial fungicides tested. Studies of the deposition of pitch in the mills have continued. Optimum conditions for drying rockweed have been evolved in an experimental dryer, and are being ascertained for kelp and eel grass. Determination of the biochemical changes taking place during cool storage of different varieties of potatoes, and an assessment of chips produced from them, have been completed.

Prairie Regional Laboratory.—Research in the Prairie Regional Laboratory is designed to promote and expand industrial uses for agricultural produce of the prairie region. Together with this applied work, fundamental studies are carried out on the basic chemical structure of agricultural materials and the complicated processes associated with the growth and development of plants and micro-organisms.

A plant biochemistry annex and greenhouse have been completed, facilitating the study of plant growth and the formation of plant constituents under precisely controlled conditions. Chemical processes taking place in plants at different stages of growth will be investigated by means of radioactive compounds.

Increased yields of commercially important products from cultures of micro-organisms are being examined. Work is under way on the production of lysine and other essential amino acids of importance in human and animal nutrition, on antifungal antibiotics, and on alkaloids of value to the pharmaceutical industry.

A mechanical foam breaker has been developed which will enable assessment of the effects of chemical antifoams on industrial fermentations. Studies have also begun to produce smaller, more efficient equipment than that now required for batch type operations in the fermentation industry. A strain of mushroom with a high yield of protein solids has been isolated. Animal feed supplementation trials indicate that the yield contains antioxidant and growth factors which should prove valuable in livestock feeding.

In the field of crop utilization, co-operative studies are under way to examine potential uses of rapeseed oil in grease manufacturing and as a lubricating oil additive. Theoretical and experimental work continued on the drying of wheat. A new method for the direct separation of starch and gluten from wheat flour has been developed. The vital gluten produced contains water soluble sugars and proteins and, when added to low protein flours, produces a strong type of baking flour.

Administration.—Administration of the foregoing laboratories is organized as a Division of Administration and Awards, which exists only to serve the scientist. The five service units of this Division are: Awards and Committee Services (Awards, Committees, Publications, Research Journals); Administrative Services (General Services, Purchasing, Personnel); Information Services (Technical Information Service, Library, Public Relations Office, and Liaison Offices in Ottawa, Washington, D.C., and London, England); Plant Engineering Services; and Legal and Patent Services. The latter group works closely with Canadian Patents and Development Limited (*see p. 107*). An expert on economic research acts as special assistant to the Assistant Director, Information Services.

Section 2.—Research in the Atomic Field*

Atomic Energy of Canada Limited (AECL), a government-owned Crown company, operates Canada's main atomic energy centre near the town of Chalk River, Ont., 130 miles west-northwest of Ottawa. The company has a nine-man Board of Directors that includes representatives of private industry, public and private power companies, and the universities, and is engaged in four main activities: (1) the development of technology for economic atomic power; (2) fundamental scientific research in the atomic energy field; (3) operation of nuclear reactors and separation of nuclear fuels (plutonium and uranium-233); and (4) production of radioactive isotopes and associated equipment, such as Cobalt-60 Beam Therapy Units for the treatment of cancer.

The company is collaborating with the Canadian General Electric Company Limited and The Hydro-Electric Power Commission of Ontario (HEPC) in the building of an experimental atomic power station, to be known as NPD (Nuclear Power Demonstration), near Des Joachims on the Ottawa River, 12 miles above the Chalk River plant. The decision to build NPD followed a power reactor feasibility study, started late in 1953 and carried out by engineers of AECL, HEPC, the Montreal Engineering Company Limited, the Shawinigan Water Power Company, the British Columbia Electric Company Limited, and the Brazilian Traction, Light and Power Company Limited. The power reactor is expected to generate 20,000 kw. of electricity when it goes into operation in 1961. To carry out a development program for a 200,000 kw. power station known as CANDU, Atomic Energy of Canada Limited in 1958 set up a Nuclear Power Plant Division in Toronto. Ontario Hydro and various private companies have contributed staff to the division.

To ensure that the various publicly and privately owned utilities are kept fully informed of the progress being made, the Government set up in 1954 an Advisory Committee on Atomic Power Development on which the various power producers throughout the country are represented. The committee, which meets periodically at Chalk River, studies the research results obtained at that centre, receives complete information on the NPD station and large power reactor studies, and assists in evaluating the economic importance of atomic power in various regions of the country.

In 1955, the Industrial Assistance Office was set up at Chalk River to create an interest on the part of private companies in the possible applications of atomic energy in general and of atomic power in particular.

Development of the Atomic Energy Program.—The program had its beginning in 1942 when it was decided to set up a Canadian-United Kingdom project in Canada, under the administrative control of the National Research Council of Canada. British, French and other European scientists doing nuclear research moved to North America early in World War II to work on an atomic weapon—the possibility of which became evident when the first recognition of nuclear fission was announced in Germany in 1939.

The United States project used the more readily available graphite to moderate its reactors and the project in Canada was assigned the task of trying heavy water as a moderator so that all possible routes to the production of plutonium for bombs would be tried. In 1944 the Canadian-United Kingdom team moved from the University of Montreal, where preliminary studies had been carried out, to a site on the Ottawa River, about five miles from the town of Chalk River.

On Sept. 5, 1945, ZEEP went into operation. It operated at a mere 10 watts but made possible a study of the value of a heavy-water natural uranium system and it has continued to be useful for studies of fuel rod arrangements. Two years later, on July 22, 1947, the NRX reactor went into operation. It was then, and so remained for several years, the most powerful research reactor in the world. NRX still plays a leading role by making possible important experiments relating to the development of atomic power, enabling fundamental properties of atoms and nuclei to be determined, and producing

* Prepared by Clyde Kennedy, Public Relations Officer, Atomic Energy of Canada Limited, Chalk River, Ont.

radioactive isotopes of high specific activity (*i.e.*, the relation of the amount of radiation to a given weight of material). Both the United States and the United Kingdom are, like AECL, using NRX for atomic power studies. This reactor now operates at a power output of 40,000 kw. (a measure of the heat produced).

In 1946 the United Kingdom established its own atomic energy program and in the same year the Atomic Energy Control Act was passed in Canada "to make provision for the control and supervision of the development, application and use of atomic energy". This Act created the Atomic Energy Control Board.

The Chalk River project was operated on behalf of the Atomic Energy Control Board by the National Research Council until 1952 when AECL was established to operate the project on behalf of the Board. A 1954 amendment to the Atomic Energy Control Act requires AECL to report directly to the Cabinet Minister who is Chairman of the Committee of the Privy Council on Scientific and Industrial Research. The Atomic Energy Control Board continues to report to the same Minister.

The next stage in the Canadian program, following the creation of a separate United Kingdom program, consisted mainly of carrying on fundamental research at Chalk River, using the facilities of the two natural uranium heavy-water reactors. The need for a source of higher neutron flux for fundamental research and for engineering studies resulted in the decision in 1951 to build another natural uranium heavy-water reactor known as NRU. This reactor, placed in operation on Nov. 3, 1957, has a heat output of 200,000 kw., five times that of NRX. The NRU reactor has three main functions: the production of significant quantities of plutonium; the provision of advanced experimental facilities for fundamental research and for the testing of power station fuel-coolant systems; and the production of radioactive isotopes of high specific activity, particularly Cobalt-60 which is used in the treatment of cancer.

Activities of the Chalk River Project.—The principal function of this project is to carry out fundamental research and preliminary engineering development. The project provides the data that utilities and manufacturers need for a nuclear power program. The work is carried out by an Administration and Operations group and a Research and Development group. The former is responsible for general administration, the operation of the nuclear reactors and associated chemical process plants, the construction and maintenance of buildings, the provision of steam and auxiliary power for the project, and the correlation of the experience of the operating branches with the results obtained by the research branches to produce engineering information for major projects handled by outside organizations. The activities of the Research and Development group, which cover a wide field of fundamental and applied research in physics, chemistry, metallurgy, and biology, are carried out by five divisions—Reactor Research and Development, Chemistry and Metallurgy, Physics, Biology and Health Physics, and Research Engineering. These divisions conduct short-term and long-term investigations—the short-term to provide the basic information required to design and operate the first Canadian power reactors. A wide variety of possible reactor systems makes it necessary to conduct extensive investigations, both mathematical and experimental, to determine which are likely to be the most economic and efficient. The longer term work, though mainly the responsibility of physicists and biologists, also involves the chemistry of substances which have become important (or have come into existence) only since the development of atomic energy.

The Reactor Research and Development Division is engaged in experiments and calculations required for the design of nuclear reactors for atomic power stations. Control systems for such plants and for the Chalk River reactors are being studied. The ZEEP reactor has been in constant use in determining the reactive efficiency and other characteristics of various fuel element arrangements. Construction began in 1959 of a larger, low-power reactor, known as ZED-2, which will provide information on the physics of reactor cores for studies of power station reactors. Late in 1957, a swimming pool type of reactor

known as PTR (Pool Test Reactor) was put into operation and is used to measure the reactivity of fuel elements both before and after they have been irradiated in one of the high-power reactors.

The Chemistry and Metallurgy Division includes a number of research groups which are making a co-ordinated attack on the problems of the preparation and processing of reactor fuel. The Division develops fuel elements for the NRX and NRU reactors and for power reactors. Experiments are providing essential information on the behaviour and suitability of different physical forms of the fuel, or different kinds of cladding to prevent corrosion of the fuel. Some of the work is being done in collaboration with the Department of Mines and Technical Surveys.

In the Physics Division work has continued on the study of nuclear structure, using the experimental facilities of the NRX reactor and the particle accelerators, such as the 3,000,000-electron-volt Van de Graaff Generator. A 10,000,000-volt machine, known as a Tandem Accelerator, was installed at Chalk River in 1958. This new type machine, which consists of two Van de Graaff accelerators placed end to end horizontally, has made it possible to carry out research programs on heavy nuclei with an accuracy and efficiency never before possible.

The activities of the Biology and Health Physics Division include the control of radiation hazards, the development of decontamination methods, the study of uses of radioactive isotopes in biological research, and the investigation of the effects of radiation on living organisms.

The marketing of radioactive isotopes and associated equipment is handled by the Commercial Products Division of AECL, which has its offices and shops in Ottawa. Canada pioneered in the production of radioactive isotopes and the Chalk River project now produces a variety of isotopes for use in industry, agriculture and medicine. The high flux of NRX enabled AECL to produce relatively large quantities of Cobalt-60, with a high specific activity, for use in cancer therapy units. The combined production of NRX and NRU will be required to satisfy the demand from many countries for Canadian units. By the end of 1958 a total of 133 cancer treatment machines had been installed in 24 countries.

Section 3.—Other Scientific and Industrial Research Facilities

Aside from the work of the National Research Council and Atomic Energy of Canada Limited, Canadian research is carried on by various federal agencies, provincial organizations, universities and industries. Several provinces in Canada have established provincial Research Councils to stimulate and support research on problems having special provincial significance. The universities, of course, form an extremely important part of the Canadian pattern of research. Much of their work is along fundamental lines but practical problems are not neglected, especially those of regional interest.

All three types of institutions—federal, provincial and university organizations—have an interest in problems of industrial significance: this is part of the current Canadian pattern of research. Though many Canadian industries now possess research facilities—some of them quite extensive—the main bulk of industrial research to date has been done under government auspices.

Thus the unique problems of the country, particularly its large area coupled with a small population, have led to a typically Canadian organization of research, of which a very strong associate committee system is perhaps the most distinctive feature.

Subsection 1.—Federal Organizations

Although research by industrial concerns has been slow to develop in Canada, government research has expanded rapidly, at first because of the need for speeding up the production of raw materials, which were for many years the basis of Canada's export trade, and secondly because of the more recent interest in the processing of these raw

materials and the necessity of meeting the needs of national defence. Federal agencies involved in research include the Departments of Agriculture, Fisheries, Mines and Technical Surveys, National Defence, National Health and Welfare, Northern Affairs and National Resources, and Trade and Commerce; the National Research Council; and Crown corporations such as Atomic Energy of Canada Limited. A system of committees, with nation-wide representation, eliminates unnecessary duplication of work from these national research organizations.

The scientific work of the Department of Agriculture is described in Chapter IX of this volume, the work of the Defence Research Board in Chapter XXVI, specialized work in scientific forest research in Chapter X, scientific services concerned with Canada's mineral resources conducted by the Department of Mines and Technical Surveys in Chapter XI, investigational work of the Department of Fisheries in Chapter XIII, research of the Canadian Wildlife Service of the Department of Northern Affairs and National Resources in Chapter I, the work of the National Research Council at pp. 370-377 and atomic research at pp. 378-380. The activities of the other federal agencies engaged in research are described briefly in the following paragraphs.

Department of National Health and Welfare.—The Department of National Health and Welfare supports both intramural and extramural research programs. Within the Department, the Food and Drug Directorate, Laboratory of Hygiene, Occupational Health Laboratory and various clinical services are engaged in scientific research in their respective fields. Special studies and surveys are conducted in social and medical economics by the Research Division. The extramural program consists of grants-in-aid of medical research at universities, hospitals and other research institutions from funds under the National Health Program. The Public Health Research Grant provides over \$500,000 per annum with allocations from the Mental Health, General Public Health, Tuberculosis, Cancer, Child and Maternal Health and Crippled Children's Grants making up approximately \$1,250,000 additional funds. To co-ordinate medical research programs, meetings are held by representatives of the National Research Council, Defence Research Board, Department of Veterans Affairs, National Cancer Institute and the Research Advisory Committee of the Department of National Health and Welfare. These have provided for reasonably clear definitions of the field of interest of each organization and have minimized uneconomical overlapping.

Grain Research Laboratory.—Rapid development of grain production in Western Canada led to the passing, in 1912, of the Canada Grain Act. This Act is administered by the Board of Grain Commissioners, which reports to Parliament through the Minister of Trade and Commerce. The Board is responsible for control of the weighing, grading and warehousing of Canadian grain. Soon after its establishment, the Board encountered problems that required scientific study and a Grain Research Laboratory was established at Winnipeg, Man., in 1913.

The Grain Research Laboratory, with a staff of 50, is the main centre of research on the chemistry of Canadian grains. It is well staffed and equipped to provide the service required to help maintain and expand domestic and foreign markets for all types of grain. The Laboratory collects and tests samples of various crops to obtain information on the current quality of all grains shipped during the crop year and prepares, annually, certain information required by the Board for administering the Canada Grain Act. Fundamental research is also undertaken; the program is directed toward increased understanding of what constitutes quality in cereal grains and towards improving the methods of assessing quality.

Subsection 2.—Provincial Organizations

The fact that only a few provincial research organizations exist does not indicate a lack of interest in research by the provinces. Most provincial governments have university laboratories to consult, particularly about local industrial and agricultural problems.

Agriculture is particularly well covered because of its great importance as an export industry; the network of federal Department of Agriculture laboratories and Experimental Stations, together with agricultural colleges and provincial research councils, provides this industry with a very well developed research service.

Nova Scotia Research Foundation.—This body was created by the Government of Nova Scotia in 1946 to give its people additional scientific and technical assistance in finding new and better ways to utilize the resources of the forest, the sea, the farm, the mine and the process industries. To this end it seeks to correlate and further scientific work on local problems and available resources. It assists universities, colleges, research groups, industries, provincial and federal departments and individuals by loans of equipment, grants, scholarships, laboratory and summer assistants, library, cartographic, photogrammetric and translation services, and technical information. It has supported or collaborated in work on breeding new varieties of plants and root nodule bacteria; on antibiotics, poultry, blueberry culture, coal burning equipment, the constitution and gasification of coal, the non-destructive testing of mine equipment, the utilization of anhydrite, diatomite, fish waste, gypsum, seaweed, slag, slab wood and fertilizing materials. It has conducted geophysical, geological, air pollution, and seaweed surveys as well as forest aphides, forest ecology and genetic studies and assisted studies on the nutrient cycles of lakes, on X-ray crystallography, and on pressures in underground strata. Its Geophysical Division is now equipped to undertake all types of magnetometric, gravimetric, resistivity, seismic and electromagnetic explorations while its Technical Services Division provides an ever-increasing assistance to industries of the province. During the summer of 1957, 104 people were engaged on 31 projects.

Saskatchewan Research Council.—The Saskatchewan Research Council was established in 1947 for "research and investigation in the physical sciences as they affect the economy of the Province of Saskatchewan, and such particular matters as may be brought to its attention from time to time by the Lieutenant-Governor in Council". The term 'physical sciences' is given a broad interpretation to include biology, geology and engineering. Within this field the Council undertakes basic and applied research.

Up to the present the Council has functioned mainly by granting funds for approved research projects and awarding scholarships at the University of Saskatchewan. It has also conducted a technical information service with the assistance of the National Research Council. It has recently entered a new phase and, in addition to its former activities, employs a full-time staff in a new laboratory building located on the University grounds.

Research Council of Alberta.—The Province of Alberta set up a Scientific and Industrial Research Council in 1921, the promotion of mineral development within the province being the chief purpose leading to its establishment. The Council operates under an Act somewhat similar to that setting up the National Research Council and is financed by provincial government appropriations. The present program is directed to the application of basic and applied science toward the development of the natural resources of the province. Investigations include studies on coal, petroleum, natural gas, geological research and surveys, soil surveys, hail studies, irrigation and highway research. The Council maintains a gasoline and oil testing laboratory and has a group of industrial engineers to provide scientific information to developing industry. The Council laboratories, located on the University of Alberta campus, include a \$750,000 research laboratory and pilot plant provided by the Province of Alberta in 1955. The laboratories work in co-operation with the scientific departments of the University and the operations of the organization are controlled by a council of ten individuals representative of government, the University and industry. The various research projects are under the immediate supervision of advisory committees and the chairmen of these committees form the Technical Advisory Committee of the Council, the body responsible for the integration and operation of the scientific aspects of the program.

British Columbia Research Council.—The British Columbia Research Council, under the sponsorship of the provincial Department of Industrial Development, Trade and Commerce, provides a scientific and engineering staff with laboratories on the campus of the University of British Columbia. The objective is to enable even the smallest firms to improve their competitive position in Canadian and world markets by the use of the most up-to-date scientific and technical knowledge. The Council provides three classes of service: a free information service in collaboration with the National Research Council; assistance to specific firms at cost where information cannot be supplied from existing knowledge; and, at the Council's expense, research on problems of general value to the industrial development of the province.

The Ontario Research Foundation.—The Ontario Research Foundation, established in 1928, is financed by an endowment fund composed of subscriptions from manufacturers, corporations, private individuals, and a grant from the provincial government on a dollar-for-dollar basis with the other contributions. The Foundation carries on research to assist agriculture and industry in developing the natural resources of the province. A study has been made of the physiography and climate of southern Ontario and also of the parasites found in wildlife in this province. Many investigations have been undertaken in the industrial field and the Foundation is well equipped to work in metallurgy, textiles, chemistry and biochemistry. The services of the Foundation are at the disposal of industry on a fee basis, and consultative services, testing, short trial studies and long-term investigations have been undertaken for hundreds of firms. The work has resulted in better products and in more efficient processing. The Foundation administers a grant from the provincial government to support postgraduate scholarships and scientific research in the universities of Ontario.

The Hydro-Electric Power Commission of Ontario.—The Research Division of Ontario Hydro, with a staff of 300, provides testing, investigation and research services for all phases of the utility's engineering design, construction work, and system operation and maintenance. The Division maintains close liaison with other research organizations and power utilities, and staff members participate in the committee work of major technical societies and standardizing associations.

Electrical investigations pertain to methods of generating, transmitting, distributing and utilizing power, and to improvement in equipment for these purposes. Among the topics studied are transmission at voltages of 400 k.v. and above; problems of electrical insulation; system operation and control, and system protection against lightning; communications and telemetering; illumination; and power metering. Attention is given to the performance and efficiency of power equipment, to improved measuring techniques, and to means of minimizing the hazards of electric shock.

Among the structural and mechanical topics studied are the following: soil mechanics as related to foundations, roads, and earth dams and dykes; the physical properties of structural components and of numerous items such as conductor joints and line hardware; the mechanical performance and safety features of equipment and various types of machines; metals and metallurgy; welding materials, techniques and applications; atmospheric and underground corrosion of metals; stresses in materials and structures; noise and vibration conditions; and a variety of problems associated with the design, construction and maintenance of concrete structures, the application of masonry materials, and the production, placement and quality control of all concrete used.

In addition to chemical analyses and tests performed on a wide range of materials and products purchased, chemical research work is conducted with regard to such subjects as wood preservation, plastics applications, protective coatings, brush and weed control, lubrication, liquid electrical insulants, water treatment, thermal insulation, and corrosion prevention. Other studies contributory and supplementary to the main branches of work are carried on in the fields of physics, biology, petrology and mathematics.

Subsection 3.—Medical Research

Medical Research Facilities.*—Support for medical research is provided by the Federal and Provincial Governments, by private foundations or corporations, by voluntary agencies which raise money by public subscription, and by universities and hospitals. From these sources there are available (a) research fellowships for training, (b) grants-in-aid for assistance in problems of a fundamental or clinical nature, (c) salaries for trained personnel, and (d) the necessary capital and running expenses for investigations which are of particular interest to government, hospital or pharmaceutical house.

The Departments of National Health and Welfare and National Defence maintain establishments in which research is done in well-equipped laboratories with highly trained personnel. The Department of Veterans Affairs encourages its staff to do research in its own hospitals; much of this concerns chronic illness, such as arthritis, atherosclerosis, metabolic and nutritional derangements (*see pp. 287-289*).

Most of the fundamental medical problems are studied in medical schools through the system of grants-in-aid. Funds from the Federal Treasury are provided through the National Research Council, the Defence Research Board, and the Department of National Health and Welfare. The National Research Council supports mainly research in the basic medical sciences—anatomy, physiology, biochemistry, pharmacology, bacteriology, pathology, and experimental surgery—but 20 p.c. of its grants are for clinical investigations. The Defence Research Board makes grants for studies in which it is particularly interested, such as shock, the preservation of blood and the use of blood substitutes, the effects of low temperatures, etc. The Department of National Health and Welfare provides funds for research, available on the recommendation of provincial departments of health, in the following fields: public health research, tuberculosis control, child and maternal health, mental health, and general public health. It also gives assistance to the Canadian Arthritis and Rheumatism Society (which obtains other support by public subscription) and to the Ontario Heart Foundation (which derives its other resources from the Ontario Provincial Government). In addition the Department of National Health and Welfare makes available to the provinces cancer grants, out of which the provinces may supplement the funds for research which the National Cancer Institute receives from the Canadian Cancer Society. Thus the Department of National Health and Welfare is the Canadian agency which gives the greatest support to extramural research in medicine; its interest is primarily in those problems that have a direct bearing on the health of the nation rather than in fundamental research.

Universities receive funds for research also from provincial branches of the Canadian Cancer Society and from such government foundations as the Ontario Cancer Treatment and Research Foundation and the Alcoholism Research Foundation, from fraternal societies and clubs such as the Rotary Club, from the J. P. Bickell Foundation, the Atkinson Charitable Foundation, the Canadian Life Insurance Officers Association, the Muscular Dystrophy Associations of Canada, the Banting Research Foundation, the Multiple Sclerosis Society, pharmaceutical companies, etc. At several universities, individual investigators also receive grants in aid of research from various granting bodies in the United States of America.

With help from these diverse sources, active research programs are in progress in every one of the twelve Canadian medical schools. In certain of these there are special departments devoted to research, e.g., the Departments of Medical Research at the University of Toronto and at the University of Western Ontario, and the Department of Investigative Medicine at McGill University; these departments contain graduate students who work to higher degrees. With few exceptions, departments designed for undergraduate instruction are active in research; a majority provide graduate instruction as well, in which the students are maintained on research fellowships or grants.

* Prepared by Dr. J. Auer, Assistant Director, Division of Medical Research, National Research Council, Ottawa.

Notable contributions to medical knowledge are made every year by Canadian scientists, but space permits the mention of only a few fields: studies on epilepsy at the Montreal Neurological Institute; functions and interrelations of areas in the brain and brain stem and studies in neurophysiology and neurochemistry at McGill University, the University of Ottawa and the University of Western Ontario; endocrine and metabolic studies at McGill University and the Universities of Montreal, Toronto, Western Ontario and Manitoba; anticoagulants at the University of Saskatchewan; atherosclerosis and hypertension at McGill and Queen's Universities and the Universities of Western Ontario and British Columbia; hypothermia at the University of Toronto; surgery of heart and blood-vessels at McGill University and the Universities of Toronto and Montreal, and the Montreal Institute of Cardiology; tuberculosis at Dalhousie University, the Institute of Microbiology, Montreal, and the Connaught Medical Research Laboratories, Toronto; mental health studies at the Department of Health, Nova Scotia, the Allan Memorial Institute at McGill University, the University of Toronto, Regina General Hospital and the University of British Columbia; virology, including poliomyelitis, at the Institute of Microbiology, Montreal, the Sick Children's Hospital, Toronto, and the Connaught Medical Research Laboratories; bacteriology, immunity and hypersensitivity at McGill University, the University of Montreal, Queen's University, the University of Western Ontario and the University of Toronto; cancer in all the medical schools.

Connaught Medical Research Laboratories.—The Connaught Medical Research Laboratories, University of Toronto, were established for the advancement of preventive medicine and public health through research and through the preparation of biological and other products essential in prevention or treatment of certain diseases. The Laboratories render a medical public service to all the provinces of Canada and, to an extent, to countries abroad. This service was initiated when the preparation of diphtheria antitoxin was undertaken in the Department of Hygiene at the University in an effort to reduce the toll of deaths from diphtheria in Canada. At the same time, the Department initiated investigations into this and other diseases. Since then, research activities have constantly expanded and today more than seventy studies are being conducted in the Laboratories.

The research program of the Laboratories concerns the broad field of preventive medicine. By including the study of certain animal diseases, particularly those which are transmissible to man, and through preparation of related products, the Laboratories are serving both the medical and veterinary professions.

The research projects are extensive and include studies of bacterial and virus diseases, investigations in immunology, epidemiology, physiology, biochemistry, and in other fields related to preventive medicine. These undertakings are maintained in part through the distribution of products, the furnishing of which constitutes an important public health service. Also important to the advancement of public health is the assistance rendered by the Laboratories in the postgraduate teaching of medical officers of health, nurses, dentists, veterinarians, and other professional personnel. From the inception of the Laboratories in 1914, members of the staff have been closely associated with postgraduate teaching in public health. In 1924, through the beneficence of the Rockefeller Foundation and with the co-operation of the government of the Province of Ontario, the School of Hygiene was established. This provided greatly enlarged teaching facilities and also extended the participation of the Connaught Medical Research Laboratories in the work of training public health leaders.

On the University campus the College Division of the Connaught Medical Research Laboratories and the School of Hygiene share one building, permitting of joint use of research and laboratory facilities of the two institutions, and promoting a close and mutually advantageous relationship. Here also the production of insulin and other glandular products is undertaken. On Spadina Crescent in Toronto, the Spadina Division of the Laboratories provides accommodation for much important work including the

production of penicillin and research in the field of antibiotics. Additional facilities are provided near Toronto at the Dufferin Division and include a 145-acre farm property with modern laboratory buildings and quarters for animals.

Through the organization of the Western Division in the University of British Columbia, the Connaught Medical Research Laboratories have shared in the development of an important program of research in preventive medicine on the Pacific Coast.

Thus for over forty years the Connaught Medical Research Laboratories, with the co-operation of the medical profession and the official public health authorities, have contributed in steadily increasing measure to the advancement of research and public health in Canada.

The Banting Research Foundation.—The Banting Research Foundation supports the work of the Banting and Best Chair of Medical Research in the University of Toronto and aids medical research throughout Canada by making grants-in-aid to those who submit problems of sufficient medical interest to the Board of Trustees. The Board meets and makes grants usually three times a year, around June 1, Oct. 1 and Feb. 1. Five members of the Board of Trustees are appointed by the Board of Governors of the University of Toronto and the Alumni Association of the University of Toronto, and these five members appoint two other Trustees, then the seven members appoint an eighth Trustee.

Subsection 4.—University Research

Canadian universities and colleges subscribe to three basically essential aims, though with varying degrees of emphasis: (a) the diffusion of knowledge through sound teaching, extension and evening classes and written reports, (b) the conservation of knowledge and its reorganization and (c) the extension of the boundaries of knowledge through research. Most undergraduate courses attempt to provide a basic understanding in a number of subject fields with more extensive knowledge in one or more of these. The graduate courses provide a wider and deeper appreciation and understanding in a limited field through advanced courses, seminars and individual research. Practice in the research methods of the disciplines, using experiment, questionnaire, logic of the subject, or statistics is intended to prepare students capable of adding to present knowledge.

Research in the universities was first undertaken to obtain knowledge for its own sake, or pure research. It was soon recognized that this provided basic information on which applied science rests and it was followed through. More recently the universities, because of their unique position in having trained specialists and equipment, have undertaken emergency and other contractual research. The trend to pursue all three has been expanding rapidly, creating new problems but also providing greater opportunities for undertaking sizable tasks that could not have been considered otherwise. Broadening of the field of research has indirectly been responsible for increasing the capacity of the universities to educate advanced students and has occasionally improved the quality of their education through providing large-scale equipment otherwise beyond the ability of the institution.

Research presently undertaken in the universities falls into three broad categories: projects undertaken by the student under the guidance of a professor or committee to meet requirements for an advanced degree; that undertaken by the professor, which may be of a more or less continuous nature; and larger research projects undertaken co-operatively on a faculty or interfaculty basis in the university laboratories or in such specialized institutions connected with the university as medical research laboratories, institutes of microbiology and hygiene, science service laboratories and faculties of agriculture.

Some idea of the increase in research undertaken by Canadian universities is obtained from a comparison of the situation in 1919 (when two universities—Toronto and McGill—offered graduate courses beyond the master's degree and graduated 11 students) with the situation in 1957. In the latter year Ontario had four, Quebec three and six other provinces

each had one major university with graduate facilities. They conferred 281 doctorates in course, distributed by fields as follows: biological sciences, including medical and agricultural sciences, 83; engineering and applied science, 13; humanities, 45; physical sciences, 110; and social sciences, 30. Subject matter covered in these and reports of other research conducted by university professors and reported in professional journals is encyclopaedic and reflects specialization and variety. Outstanding research in different fields has become associated with various universities, for example: nuclear research and geophysics in McGill, Queen's, McMaster and Saskatchewan; medical research in such institutions as the Connaught Laboratories and the Montreal Neurological Institute; agricultural research in the western universities; and fisheries research in British Columbia.

Outside financial support for university research comes primarily from four sources: Departments of the Federal Government including the National Research Council and Defence Research Board which provide grants for approved and contracted government-sponsored research; industry which supports both basic and applied research; private foundations which provide grants for approved research, sometimes in selected fields; and provincial governments.

Subsection 5.—Industrial Research

Industrial research in Canada is changing very rapidly. In the past, industry in general was largely unaware of the value of research to its own development and to that of the country, partly because many Canadian companies were subsidiaries of companies in the United Kingdom and the United States and partly because small companies found it impossible to finance their own research. The problem was accentuated by the vast size of the country, the absence of concentration of similar industries and the proximity to the relatively large research facilities of the United States.

However, the emergence of Canada as a highly industrialized society, its entrance into multitudinous fields of production, the rapid growth of many large nation-wide industries, the serving of a discriminating domestic market and the meeting of competition from abroad have had the effect of making Canadian manufacturing establishments research conscious and many of the larger ones now possess competent research organizations. The fields covered by some of these industries are outlined in the 1956 Year Book at pp. 386-389. The research work of the Canadian Pulp and Paper Association, an independent corporation combining efforts of government, university and industry in the expanding field of pulp and paper research, is described in the Forestry Chapter of this volume.

Industrial Research-Development Expenditures in Canada, 1957.—A survey was conducted in 1958 of some 2,800 of the larger industrial firms in Canada in an attempt to measure the extent of the research program being undertaken and to obtain an indication of its direction. From this survey, information was secured on the cost of research programs carried out by Canadian companies in 1957—both direct expenditures and cost of purchasing research-development results from affiliates or from other companies or organizations located in Canada and in foreign countries. Data were also secured on the principal fields in which the research was carried out and on the number of research personnel employed. The magnitude of the research-development costs in 1957 and the increase planned for 1958 give an indication of the size of the program and the direction in which business is searching for new products, for new and more efficient processes and for improvements to existing products and techniques.

The research-development program was reported by industry as totalling \$149,000,000 in 1957 and was estimated at close to \$161,000,000 in 1958. Of the total expenditure in 1957, the major part—amounting to \$125,000,000—was conducted within the companies reporting, an additional \$20,000,000 was spent for research-development done outside Canada, mainly in the United States, and the remaining \$4,000,000 was spent for research done by other companies or organizations in Canada.

1.—Research-Development Expenditures, by Industry, 1957 with Estimates for 1958

Industry	Research Expenditures 1957	Estimated Research Expenditures 1958	Increase or Decrease
	\$	\$	p.c.
Mining, quarrying and oil wells.....	6,279,487	5,260,671	-16.23
Manufacturing—			
Foods and beverages.....	1,883,122	1,976,940	4.98
Rubber products.....	4,307,531	4,459,720	3.53
Textile products.....	1,482,206	1,465,550	-1.12
Wood products.....	148,163	152,300	2.79
Paper products.....	6,213,362	6,536,718	5.20
Iron and steel products.....	4,340,043	4,835,265	11.41
Transportation equipment.....	72,918,827	77,992,404	6.96
Non-ferrous metal products.....	5,793,109	7,110,580	22.74
Electrical apparatus and supplies.....	15,348,440	15,948,267	3.91
Non-metallic mineral products.....	1,713,776	1,817,889	6.08
Products of petroleum and coal.....	7,488,518	9,624,000	28.52
Chemical products.....	12,428,448	14,247,164	14.63
Other manufacturing ¹	1,808,351	2,349,419	29.92
Transportation, storage, communication and public utility operations.....	3,898,800	4,171,300	6.99
Other non-manufacturing ²	3,091,896	3,051,372	-1.31
Totals.....	149,144,079	160,999,559	7.95

¹ Includes tobacco and tobacco products, leather products and miscellaneous manufacturing, construction, health services, engineering and scientific services and trade associations.

² Includes

The following estimates of research-development in the various fields of activity in 1957 show that mechanical, electrical and "other" (mainly aeronautical) engineering, chemistry and metallurgy together accounted for almost 80 p.c. of the total. Expenditures in all engineering fields combined accounted for almost 65 p.c. of the total. Every industry reported some activity in mechanical engineering and at least one other phase of engineering research and also in the chemical research field.

2.—Research-Development Expenditures, by Field of Research, 1957

Field of Research	Amount	Field of Research	Amount
	\$		\$
Chemical engineering.....	10,078,282	Geology, geophysics and other earth sciences.....	1,621,535
Civil engineering.....	935,371	Metallurgy.....	12,879,038
Electrical engineering.....	22,300,993	Medicine.....	2,473,357
Mechanical engineering.....	39,843,632	Agriculture.....	421,383
Other engineering.....	23,438,084	Other.....	4,688,988
Chemistry.....	20,328,760		
Physics.....	10,134,656		
		Total.....	149,144,079

Arrangement of industrial-research expenditures by size group based on annual sales of research-active firms shows that the larger firms with annual sales in excess of \$50,000,000 accounted for the major part of the expenditures, although this size group included only 12 p.c. of the firms maintaining research establishments.

3.—Research-Development Expenditures, by Size Group, 1957

Size Group ¹	Firms	Research-Development Cost	Percentage of Total
	No.	\$	
\$50,000,000 or over.....	57	108,116,078	72.49
\$10,000,000 to \$49,999,999.....	131	22,028,562	14.77
\$ 1,000,000 to \$ 9,999,999.....	221	14,774,187	9.91
Under \$1,000,000.....	46	4,225,252	2.83
Totals.....	455	149,144,079	100.00

¹ Based on annual sales value in 1957.

During 1957 the equivalent of 4,448 professionally trained scientists were employed on research-development projects. The three top industrial groups, in terms of numbers of professionally trained employees, were transportation equipment, electrical apparatus and supplies and chemical products, which together accounted for almost 63 p.c. of the total professional employment in the research field.

Classification of the professional scientists by field and degree of training reveals that for all types of engineers engaged in research there is a greater predominance of professional employees with bachelor degrees. On the other hand, medical scientists, geologists, geophysicists or other earth scientists, chemists, administrators, physicists and agricultural scientists have a greater percentage of the professional employees engaged in research work with doctorate or master degrees than in the engineering field or in the over-all pattern.

In addition the reporting companies employed the equivalent of 7,263 supporting personnel on research-development work, of whom 3,737 were research-development technicians, 802 were skilled craftsmen and 2,724 were other supporting personnel. The average ratio of supporting personnel to professional scientists or engineers for firms conducting research-development was about six to one.

4.—Professional Research-Development Scientists Employed, classified by Field and Level of Training, 1957

Field of Training	Level of Training			Total
	Bachelor	Master	Doctorate	
	No.	No.	No.	No.
Chemical engineers.....	399	53	51	503
Civil engineers.....	40	4	3	47
Electrical engineers.....	771	72	13	856
Mechanical engineers.....	886	25	15	926
Other engineers.....	310	41	18	367
Chemists.....	500	122	255	877
Physicists.....	105	35	45	185
Geologists, geophysicists and other earth scientists.....	10	11	10	31
Metallurgists.....	177	17	22	216
Mathematicians.....	42	6	4	52
Medical scientists.....	22	17	103	142
Agricultural scientists.....	18	2	6	26
Administrators (of research-development).....	67	16	34	117
Unclassified and others.....	86	8	9	103
Totals.....	3,433	429	586	4,448

CHAPTER IX.—AGRICULTURE

CONSPECTUS

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NOTE.—The interpretation of the symbols used in the tables throughout the Year Book will be found facing p. 1 of this volume.

Agriculture is one of Canada's leading primary industries and is of particular importance to the economy of the country. Special articles that have appeared in previous Year Books dealing with the historical development of agriculture and with significant features of that progress are listed in Chapter XXVII under the heading "Special Material Published in Former Editions of the Year Book".

Section 1.—Federal Government in Relation to Agriculture*

The federal Department of Agriculture dates from Confederation. It was established in 1867 as an outgrowth of a Bureau of Agriculture set up in 1852 by an Act of the Legislature of the Province of Canada. The Department derives its authority from the British North America Act, 1867, which states in part that "in each province, the legislature may make laws in relation to agriculture in the province" and that "the Parliament of Canada may from time to time make laws in relation to agriculture in all or any of the provinces; and any law of the legislature of a province relative to agriculture, shall have effect in and for the province as long and as far as it is not repugnant to any Act of the Parliament of Canada".

A Department of Agriculture with a Minister of Agriculture at its head was accordingly established as part of the Government of Canada. Departments of Agriculture headed by provincial Ministers of Agriculture were also set up by the provincial governments, except in the Province of Newfoundland where agricultural affairs are dealt with by the Agricultural Division of the Department of Mines and Resources. The agricultural affairs of the Yukon and Northwest Territories are administered for the Federal Government by the Territorial Division, Northern Administration and Lands Branch, Department of Northern Affairs and National Resources.

* Prepared under the direction of Dr. J. G. Taggart, C.B.E., Deputy Minister of Agriculture, Ottawa.

Subsection 1.—Services of the Department of Agriculture

Broadly speaking, the activities of the Department of Agriculture may be grouped under three headings: research, promotional and regulatory services, and assistance programs. Research work is aimed at the solution of practical farm problems through the application of fundamental scientific research to all aspects of soil management and crop and animal production. Regulatory services are directed toward the prevention or eradication of crop and livestock pests, the inspection and grading of agricultural products and the promotion of sound policies for crop and livestock improvement. Assistance programs cover the sphere of soil and water conservation, price stability, and a degree of crop insurance and income security in the event of crop failure. The Department employs a staff of about 9,000 persons.

A new departmental organization, effective from Apr. 1, 1959, provides for a re-grouping of the various units into branches concerned with the broad lines of activity mentioned above. This change supersedes an organizational framework that has been in effect since 1937 and is an effort to bring the Department more closely in line with present-day needs.

The main features of the plan are the establishment of a Research Branch that will integrate the former Experimental Farms and Science Services; the incorporation of the Marketing Service and Production Service into one unit to be known as the Production and Marketing Branch; and the establishment of an Administration Branch that will take care of departmental administration and will also embrace the Information Division and the Economics Division, the latter formerly associated with the Marketing Service. Ultimately, and subject to legislative approval, a fourth branch may be established to embrace conservation and rehabilitation activities and possibly other new lines of work. Each Branch is to be headed by an Assistant Deputy Minister.

Research Branch.—The Research Branch is the principal research agency of the Department. It conducts a broad program of scientific investigation covering both basic studies and practical attacks on agricultural and forest biology problems. There are seven Research Institutes at Ottawa. Three Research Institutes, six Regional Research Stations, three Regional Research Laboratories, 27 Experimental Farms, 22 Laboratories, two Forest Nursery Stations, and 17 Substations are located throughout the ten provinces and the Yukon and Northwest Territories. In 1958 the Central Experimental Farm at Ottawa was extended by some 4,000 acres.

The Research Branch serves all principal agricultural and forest areas in Canada and co-ordinates its efforts with the National Research Council, universities and kindred agencies. One staff, under the new organization, will be charged with the planning and co-ordination of the program and another with the administration required to carry it out. Five directors representing divisions of animals, crops, soils, entomology and plant pathology, and forest biology will assist the programming of the work. The three research services of Statistics, Engineering and Analytical Chemistry—located with the Administrative and Executive group at Ottawa—will provide research groups across the country with specialized leadership and service and undertake critical researches or other creative work as required.

The Institutes.—The Institutes are organized on a scientific rather than a problem basis and are engaged primarily on basic research of wide application to agriculture and forest biology. They also carry out related national work such as the identification of plants, insects and pathogens. There are seven Institutes at Ottawa and one each at London, Belleville and Sault Ste. Marie, all in Ontario.

The Animal Research Institute covers the fields of genetics and breeding, nutrition, physiology, biochemistry and management, and tackles problems in the production of milk, beef, lamb, pork, poultry, eggs and fur.

Plant studies are carried out at the Plant Research and the Genetics and Plant Breeding Research Institutes in taxonomy, physiology, biochemistry, pathology, agrometeorology and weeds, and fruit and vegetable processing and storage. Cytological and genetic studies on cereal, forage, tobacco and horticultural plants are made by the Genetics and Plant Breeding Research Institute with special reference to problems encountered in the breeding programs and the assessment of quality characteristics.

The staff of the Soils Research Institute is engaged in studying genesis and classification, fertility, mineralogy and the organic, physiochemical and physical aspects of soils. This Institute gives leadership to the federal-provincial soil survey program through classification studies and by developing and standardizing analytical methods. It also provides a national soil mapping service.

A major section of the Entomological Research Institute deals with taxonomy, other assignments being in the fields of genetics, physiology, nematology and apiculture. The Institute assembles and maintains the national collection of insects.

The Microbiological Research Institute is mainly concerned with metabolism, nutrition and genetics of bacteria of agricultural significance.

The Dairy Technology Research Institute investigates problems in sanitary milk production and the processing of dairy products and undertakes projects to improve existing dairy products and to develop new ones.

The Biological Control Research Institute at Belleville, Ont., is concerned with efforts to control destructive insect pests and noxious weeds with parasitic and predaceous insects, and with insect disease organisms. It is also the principal importing centre for beneficial insects and for some disease organisms from foreign countries.

The Insect Pathology Research Institute at Sault Ste. Marie, Ont., is the major importing centre for disease organisms. Insect diseases, including viruses, fungi, bacteria and protozoa are studied.

The Pesticide Research Institute, London, Ont., established in 1951, examines chemicals used or intended to be used for insect, disease or weed control and investigates the reason for and the nature of the biological activity of the chemical.

The Regional Institutes, Stations and Services cope with primary problems in various regions in all provinces. General agriculture in the Northwest Territories is being studied. Nine major laboratories are working on forest and shade trees, and on forest products diseases and pests in conjunction with provincial forest services and the forest industries.

Other units have undertaken projects assisting in the exploitation of peat bogs, reclamation of marsh land for pasture, propagation of shelter-belt trees and prevention of soil erosion, dryland agriculture, the growing of special crops such as tobacco, and live-stock breeding.

The Research Laboratory at Winnipeg, Man., has a world-wide reputation for its contribution in the field of cereal rusts and is the national centre for investigations concerning insects in stored products.

Production and Marketing Branch.—The Production and Marketing Branch represents a consolidation of the former Production Service and Marketing Service and also includes the Agricultural Stabilization Board and the Agricultural Products Board. The regulatory functions of the Department of Agriculture are thus centred in one branch.

The Health of Animals Division of the Branch administers the Animal Contagious Diseases and the Meat Inspection Acts, and also operates Animal Pathology laboratories. Besides its responsibility in carrying out various disease prevention measures, the division operates programs for the eradication of bovine tuberculosis and brucellosis and gives health certificates for livestock export trade. The Animal Pathology laboratories, in addition to their research function, manufacture diagnostic reagents and biological products and provide analytical and diagnostic services for domestic and wildlife diseases. District laboratories across the country give routine diagnosis and research services.

The Livestock Division administers the Livestock Pedigree Act, Record of Performance for dairy cattle, beef cattle and swine, supervision of race track betting, the grading of meat, wool and fur and the compiling and interpreting of market information.

The Poultry Division carries out the policies of the National Poultry Breeding Program, including Record of Performance for poultry and hatchery inspection, and administers the regulations for the grading of poultry products.

The Fruit and Vegetable Division administers legislation having to do with the grading of fruit and vegetables in both fresh and processed form.

The Dairy Products Division is responsible for the administration of legislation covering grades and standards of dairy products, including butter, cheese, dried milk and ice cream.

The Plant Products Division administers acts and regulations respecting seeds, feed-stuffs, fertilizers and pest control products and conducts field inspection and maintains regional testing laboratories.

The Plant Protection Division is responsible under the Destructive Insect and Pests Act for safeguarding against the introduction of serious plant insects or diseases into Canada or their spread in Canada, for certifying freedom from disease and pests in plant exports, and for seed potato certification.

The Consumer Section helps to promote proper use of Canadian agricultural food products through experimental work carried on by its home economists on cooking foods and preserving perishables.

The Transportation and Storage Section administers the Cold Storage Act dealing with the payment of subsidies for the construction of public cold storage. Cargo inspectors at the main Canadian ports check the handling of goods moving to export.

Agricultural Stabilization Board.—The Agricultural Stabilization Board, consisting of three members, administers the Agricultural Stabilization Act which came into effect in March 1958, replacing the Agricultural Prices Support Act. There is also an advisory committee of ten farmers or farm organization representatives. The new Act requires mandatory support for nine commodities—cattle, hogs, sheep, cheese, butter, eggs, wheat, oats and barley—the last three covering only the cereals produced outside the jurisdiction of the Canadian Wheat Board.

Stabilization assistance may be provided by purchase of the commodity at the prescribed price level, by deficiency payment to make up the difference between the average market price and the prescribed price, or by other payment for the benefit of producers to maintain a prescribed price. Mandatory stabilization prices must be at least 80 p.c. of the average market prices for the ten previous years. Any natural or processed product may be designated and support prices for designated commodities may have any percentage of the base price used in establishing the level of support. Local conditions and cost of production are taken into account in the support price which stands for a period of 12 months.

The total net costs of the Agricultural Prices Support Board up to the end of March 1958 amounted to \$100,073,260. The extensive buying and selling by the Government after the outbreak of foot-and-mouth disease in 1952 resulted in a United States embargo on Canadian hogs and cattle, and accounted for a loss of \$70,000,000. The remaining \$30,000,000 resulted from costs of various programs since 1946 in support of apples, potatoes, dried white beans, extracted honey, dry skimmed milk, cheddar cheese, creamery butter, shell eggs and fowl. The new Board took over storage stocks of 68,000,000 lb. of poultry and dairy products and 88,754 cases of eggs.

The Board was authorized to support Canada First Grade creamery butter from May 1, 1958, for a period of 12 months on the basis of 64 cents per lb. Montreal, approximately 107 p.c. of the ten-year average base price. On Oct. 10 stocks were approximately 88,000,000 lb. compared with 34,000,000 lb. a year earlier. Cheese was similarly supported at a higher level than the ten-year average price. On May 1 the Government offered 33½ cents

per lb. for Quebec cheese at Montreal and 34 cents per lb. for Ontario cheese f.o.b. warehouse, equivalent to 110 p.c. of the average. The Board bought about 15,000,000 lb. and released most of it later for export at a cost of more than \$500,000.

Price support on dry skimmed milk was reduced as at May 1, 1958, and the Board bought 62,000,000 lb. before placing a delivery quota in late September on milk which could be offered for purchase. Some 18,000,000 lb. were disposed of by gift and sale up to Oct. 10.

Shell eggs were supported from May 5, 1958, on the basis of 44 cents per doz. Grade A large, graded and packed at Montreal. The Board purchased about 350,000 cases of eggs from January through June 1958, nearly all of which had been sold by the end of October. Fowl and frozen whole-egg stocks were reduced substantially during the period up to Oct. 10.

The Board was authorized to support, during 1958, British Columbia tomatoes, processed raspberries and apples, asparagus, honey, apricots, processed peaches, soybeans, sugar beets, Prince Edward Island potatoes, and wool. Support on turkeys, granted under the Agricultural Prices Support Act, was continued.

Agricultural Products Board.—The Agricultural Products Board, first established in 1951 under the Emergency Powers Act, was reappointed under the Agricultural Products Board Act dated Jan. 23, 1952. The Board was established for the purpose of selling or delivering agricultural products pursuant to any agreement made by the Government of Canada with any other government or agency, and to buy, sell or import agricultural products.

Administration Branch.—Besides its general responsibility for the business management of the Department, the Administration Branch embraces the division concerned with Information and Economics. For the present, rehabilitation and assistance programs are also associated with this Branch.

The Organization and Personnel Division is responsible for all matters pertaining to personnel, pay and benefits, promotion competitions, staff relations, and the over-all establishment and estimates for the whole Department. The Property and Finance Division is responsible for property, buildings and equipment management practices; the carrying out of the Financial Administration Act; and the provision of centralized purchasing and services.

The Economics Division collects, analyses and interprets economic information required to form and administer departmental policies and programs. It conducts economic surveys and research designed to improve agricultural production, marketing, and farm living conditions. The Division acts as an economic and statistical research agency for the Agricultural Stabilization Board, the Prairie Farm Rehabilitation Administration and other bodies, assisting in any economic undertaking with which the Department is concerned.

The Information Division gathers and publishes information arising from research work and the development and regulatory programs of the Department, giving direct service to the public, agricultural extension and research workers. It employs all the recognized media—printed publications, press and radio releases, motion pictures and television. In addition, the Division operates the central library of the Department and a system of field libraries located at major research centres of the Department across Canada.

Subsection 2.—Farm Credit and Assistance

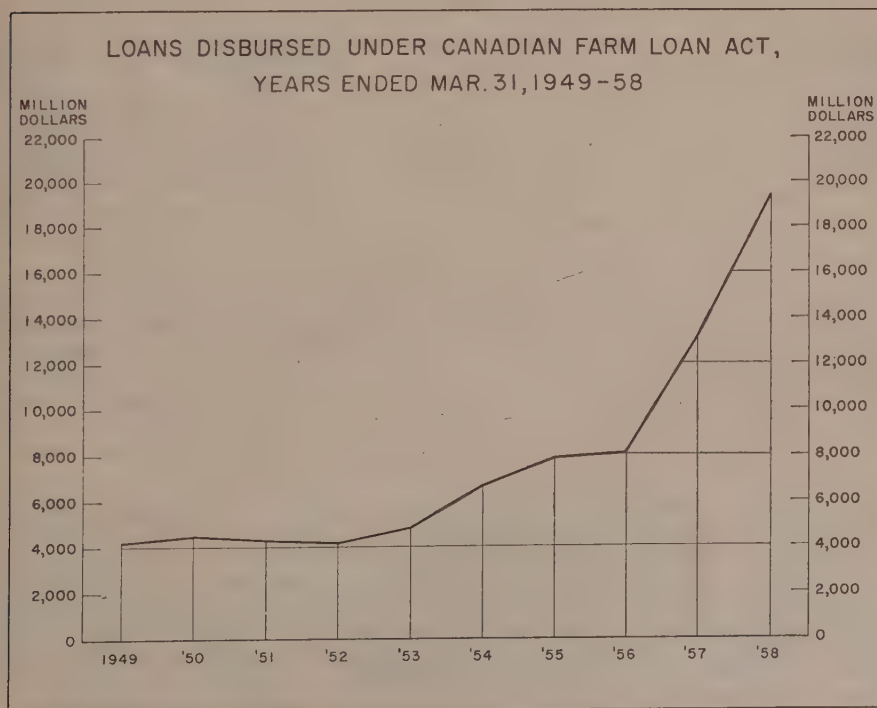
The Federal Government has made provision for the extension of credit to farmers under the Canadian Farm Loan Act and under the Farm Improvement Loans Act. Cash advances are made to grain producers under the terms of the Prairie Grain Advance

Payments Act. Certain financial assistance in event of crop failure is provided by the Prairie Farm Assistance Act. These measures are discussed in detail in the following paragraphs.

The Canadian Farm Loan Act.—Under this Act, long-term farm mortgage credit is available to Canadian farmers through the agency of the Canadian Farm Loan Board established in 1929. Loans are made to buy farm land, livestock and farm equipment, to make farm improvements and to pay debts and operating expenses.

The Board makes first mortgage loans repayable on an amortization plan with equal annual payments for periods not exceeding 30 years and in amounts up to \$15,000 and up to 65 p.c. of the appraised value of the farm taken as security. Funds for lending are borrowed by the Board from the Minister of Finance at current interest rates and are re-lent to farmers at a slightly higher interest rate sufficient to pay the cost of funds and administration expenses. The Board's authorized capital, fixed at \$4,000,000 by amendment passed on Mar. 28, 1957, was increased to \$6,000,000 by a further amendment passed on Aug. 7, 1958. The Board's borrowing power is limited to 20 times the amount of its outstanding capital subscribed by the Government of Canada.

In the year ended Mar. 31, 1958, the Board approved 3,702 loans for a total of \$21,278,450 as compared with 2,921 loans for \$13,978,700 in the preceding year. The amount approved, an increase of 52 p.c., is the largest amount approved in any year since the Board commenced lending in 1929. The average loan was \$5,748 as compared with \$4,785 in the preceding year. Approximately 63.4 p.c. of the total was approved to buy land and pay land-secured debt. At Mar. 31, 1958, the total amount outstanding in loans was \$68,490,523, an increase of \$14,742,159 over the preceding year. This amount was secured by 22,494 mortgages and 1,364 second mortgages.



1.—Loans Approved and Disbursed under the Canadian Farm Loan Act, Years Ended Mar. 31, 1949-58

NOTE.—Figures for previous years are given in the corresponding table of former Year Books beginning with the 1940 edition.

Year Ended Mar. 31—	Loans Approved					Loans Paid Out		
	First Mortgage		Second Mortgage		Total Amount	First Mortgage	Second Mortgage	Total Amount
	No.	Amount	No.	Amount				
		\$		\$	\$	\$	\$	\$
1949.....	1,821	4,450,100	756	469,200	4,919,300	4,169,070	425,966	4,595,036
1950.....	1,949	4,715,500	801	473,900	5,189,400	4,480,779	462,150	4,942,929
1951.....	1,796	4,312,450	680	409,550	4,722,000	4,288,866	404,213	4,693,079
1952.....	1,437	3,929,500	494	308,900	4,238,400	4,131,141	337,951	4,469,092
1953.....	1,685	5,458,750	559	393,550	5,852,300	4,766,149	342,410	5,108,559
1954.....	2,091	7,366,800	591	449,950	7,816,750	6,606,323	394,216	7,000,539
1955.....	2,145	7,902,100	395	323,400	8,225,500	7,849,663	357,339	8,207,002
1956.....	2,057	8,126,900	204	182,750	8,309,650	8,038,877	215,445	8,254,322
1957.....	2,921	13,978,700	—	—	13,978,700	13,154,066	29,926	13,183,992
1958.....	3,702	21,278,450	—	—	21,278,450	19,343,560	—	19,343,560

2.—First Mortgage Loans Approved under the Canadian Farm Loan Act, by Province, Years Ended Mar. 31, 1956-58

NOTE.—Figures for previous years are given in the corresponding table of former Year Books beginning with the 1940 edition.

Province	1956		1957		1958	
	No.	\$	No.	\$	No.	\$
Prince Edward Island.....	104	332,350	136	445,800	142	544,200
Nova Scotia.....	36	123,700	47	221,350	54	290,500
New Brunswick.....	39	106,500	60	234,050	67	325,150
Quebec.....	127	506,600	139	707,350	118	667,250
Ontario.....	443	2,058,850	672	3,916,100	1,084	7,980,500
Manitoba.....	229	918,950	284	1,346,200	412	2,133,100
Saskatchewan.....	671	2,610,200	897	4,212,600	1,122	5,760,900
Alberta.....	314	1,049,600	591	2,381,700	590	2,841,500
British Columbia.....	94	420,150	95	513,550	113	735,350
Totals.....	2,057	8,126,900	2,921	13,978,700	3,702	21,278,450

The Farm Improvement Loans Act.—The Farm Improvement Loans Act, administered by the Department of Finance, is designed to provide intermediate-term credit and a type of short-term credit to enable farmers to equip, improve and develop their farms. There is scarcely anything a farmer needs in the way of mechanical aids for his farm operation or his home for which a loan may not be made. Assistance may also be obtained for the purchase of livestock, principally foundation or breeding stock; for installation or repair of farm electrical systems; for repair, alteration or construction of farm buildings, including the home; and for fencing, drainage and other development projects. Credit is provided on security and terms suited to the individual borrower.

The chartered banks are the lending agency under the Act. The legislation, originally operative for three years 1945-47, has been extended from time to time for three-year periods. The Federal Government guarantees each bank against loss up to 10 p.c. of the total loans made by it during the period. This guarantee does not apply to any loan made after the aggregate of all loans made by all banks in a given period reaches an amount fixed by statute. In 1956 the Act was extended for a further three-year period commencing Apr. 1, 1956, and ending on Mar. 31, 1959. The aggregate of loans for this period, affected by the guarantee, is set at \$300,000,000. By Dec. 31, 1957, 1,005 claims amounting to \$618,134 had been paid under the guarantee since inception of the Act.

Loans may be obtained for terms up to ten years with interest not to exceed 5 p.c. The maximum amount to be advanced to a borrower at any one time was increased to \$5,000 by the legislation of 1956. The borrower must provide from 10 p.c. to 40 p.c. of the cost of his project or purchase, depending on the loan category to which it belongs.

By Dec. 31, 1957, \$597,487,162 or 82.6 p.c. had been repaid of the total loans made. The position at that date was as follows:—

Period	Loans Outstanding	P.C. of Total Loans Outstanding
1945-48.....	8,780	0.03
1948-51.....	477,589	0.4
1951-53.....	2,925,092	1.5
1953-56.....	27,794,225	12.5
1956-59.....	94,266,505	70.5
TOTALS.....	125,472,191	17.4

3.—Loans Made under the Farm Improvement Loans Act, by Purpose, 1956 and 1957, with Cumulative Totals from 1945

Purpose	1956		1957		Cumulative Totals 1945-57	
	Loans	Amount	Loans	Amount	Loans	Amount
	No.	\$	No.	\$	No.	\$
Purchase of agricultural implements.....	51,073	60,808,133	48,091	58,094,091	564,575	638,374,032
Construction, repair or alterations of, or making additions to any buildings or structure on a farm.....	3,835	5,374,605	3,074	6,000,234	34,963	43,882,955
Purchase of livestock.....	4,071	3,520,537	4,557	4,272,400	31,921	26,754,412
Works for the improvement or development of a farm designated in the Regulations.....	812	855,238	908	647,420	17,012	10,705,679
Irrigation systems.....	—	—	109	164,619	109	164,619
Purchase or installation of agricultural equipment or a farm electrical system and the alteration and improvement of a farm electrical system.....	301	193,631	216	133,735	3,879	2,393,131
Erection or construction of fencing or works for drainage on a farm.....	88	67,169	133	115,375	938	684,525
Totals.....	60,180	70,819,312	57,988	69,427,874	653,397	722,959,353

4.—Loans Made under the Farm Improvement Loans Act, by Province, 1956 and 1957, with Cumulative Totals from 1945

Province	1956		1957		Cumulative Totals 1945-57	
	Loans	Amount	Loans	Amount	Loans	Amount
	No.	\$	No.	\$	No.	\$
Newfoundland.....	57	72,276	50	58,558	305	371,199
Prince Edward Island.....	1,027	990,245	961	1,047,520	10,057	9,343,336
Nova Scotia.....	931	893,272	779	852,780	7,255	6,634,101
New Brunswick.....	744	815,250	577	688,202	5,998	6,429,653
Quebec.....	9,046	10,960,977	9,631	11,862,445	59,546	68,438,246
Ontario.....	10,305	12,631,582	10,438	13,043,018	96,003	107,401,524
Manitoba.....	6,702	7,732,778	6,117	7,104,417	80,872	85,815,098
Saskatchewan.....	15,468	18,484,970	13,581	15,856,983	194,514	222,438,951
Alberta.....	14,195	16,109,125	14,257	16,923,732	179,351	195,639,651
British Columbia.....	1,705	2,128,837	1,597	1,990,219	18,996	20,447,594
Totals.....	60,180	70,819,312	57,988	69,427,874	653,397	722,959,353

Prairie Grain Advance Payments Act.—This Act, which came into force on Nov. 25, 1957, provides for an advance payment to producers for threshed grain (wheat, oats and barley) in storage other than in an elevator and prior to delivery to the Canadian Wheat Board, exclusive of grain deliverable under a unit quota. Advance payments of 50 cents per bu. of wheat, 25 cents per bu. of oats and 35 cents per bu. of barley are made, subject to certain restrictions as to quota and acreage. Maximum advance payment per application is \$3,000.

At Dec. 31, 1958, the following advance payments had been made:—

<i>Period</i>	<i>Applications</i>	<i>Total Advance</i>	<i>Average Advance</i>
	No.	\$	\$
Aug. 1, 1957—July 31, 1958.....	50,412	35,203,467	698
Aug. 1, 1958—Dec. 31, 1958.....	39,569	30,717,854	776

Repayment is effected by deducting 50 p.c. of the initial payment for all grain delivered subsequent to the loan, other than for grain delivered under a unit quota. The amounts deducted are paid to the Board until the producer has discharged his advance.

At Dec. 31, 1958, refunds had been made as follows:—

<i>Period</i>	<i>Total Refunded</i>	<i>Total Advance Outstanding</i>	<i>Percentage Refunded</i>
	\$	\$	
Aug. 1, 1957—July 31, 1958.....	35,003,656	199,811	99.4
Aug. 1, 1958—Dec. 31, 1958.....	9,327,651	21,390,203	30.3

Prairie Farm Assistance Act.—The Prairie Farm Assistance Act, passed in 1939, provides for direct money payments by the Federal Government on an acreage basis to farmers in areas of low crop yield in the Prairie Provinces and in the Peace River area of British Columbia. The object of the Act is to assist the provinces and municipalities to meet, in times of crop failure, relief expenditures which would normally be too great for them to assume.

Payments for the 1957 crop year at July 31 totalled \$17,731,295. They were allocated as follows: Manitoba, \$1,716,239 in 7,744 awards; Saskatchewan, \$9,908,372 in 33,362 awards; Alberta, \$5,735,887 in 19,778 awards; and British Columbia, \$370,797 in 1,258 awards.

Among the conditions under which payments are made to farmers is a requirement that 1 p.c. of the purchase price of all grains (wheat, oats, barley and rye) marketed in the Prairie Provinces be paid to the Federal Government and set aside for the purposes of the Act. For the crop year 1957-58 this levy produced \$6,114,475. Since 1939 levies have raised \$107,311,190 and PFAA has paid out \$204,353,900 in 954,110 awards.

Subsection 3.—Canada's Relationship with FAO

The Food and Agricultural Organization of the United Nations, currently consisting of 77 member governments, was created for the purpose of promoting national and international action to improve the efficiency of the production, processing, distribution and utilization of all food and agricultural products, with the aim of assisting all countries to raise the levels of nutrition and standards of living of their people. It collects and disseminates information to help its member governments and others who wish it, to improve their methods of cultivation, fishing, forestry, marketing, agricultural credit and so on.

The Conference of the FAO meets every two years and its Council, representing 24 member nations (the number is to be increased to 25 by 1960), meets about twice a year or whenever necessary. The Conference reviews the world situation in food, agriculture, fisheries and forestry as well as the operation of the FAO Secretariat. The Council, meeting more frequently, keeps an eye on price trends and supplies.

The actual day-to-day work of the Organization is carried out by five technical divisions located in Rome: Agriculture, Fisheries, Forestry, Nutrition and Economics. FAO has regional offices in each of five broadly defined regions. There is a Latin American region with headquarters at Santiago, Chile, serving the needs of the whole of the Central and South American Continent; a Far Eastern region centred at Bangkok; a Near Eastern region with headquarters at Cairo; and a North American region, for Canada and the United States, centred at Washington. The fifth regional office, set up in 1958 to service the African Continent, has headquarters in Accra, Ghana. There are also a number of committees consisting of technicians from member nations who are interested in specific problems. These include a Committee on Commodity Problems, a Committee on Land and Water Utilization, a European Forestry Commission, a Committee on Locust Control, Fisheries Councils and an International Rice Commission. From time to time working parties are convened to deal with problems of immediate interest.

FAO's current operating resources are approximately \$16,500,000 a year, including about \$8,000,000 allocated to FAO from the United Nations technical assistance fund. The staff numbers 1,750; of the 800 professional personnel, 475 work in the field in over 50 countries and territories and in the regional offices and sub-offices.

Technical Activities.—FAO acts as an instrument of collaboration in the effort to control pest and disease. Throughout the Near and Middle East, international control and prevention measures, co-ordinated by FAO, are aimed at controlling locusts. The European Commission for the Control of Foot-and-Mouth Disease, created in 1952 under FAO auspices, is working toward the complete eradication of the disease. Another field for greater international action is in the development of river basins and watersheds affecting several countries. Along with other UN agencies FAO is studying the Mekong Valley's land and water development potentialities, at the request of the Governments of Vietnam, Cambodia, Laos, and Thailand.

FAO's direct action consists largely of technical assistance through supplying experts and training activities. Funds for technical assistance are contributed by governments and allocated to FAO and other specialized agencies from a Central United Nations Fund. Fellowships are provided for the training of officials and technicians from the under-developed countries so that they may assume more responsibility for their own programs; more than 1,400 fellowships have been provided since 1951 and a series of regional centres have provided training for nearly 3,000 persons on specialized subjects.

Commodity Review.—The work of the FAO Conference, the Council and the Committee on Commodity Problems in the commodity field may be summarized as follows: (1) making a periodic review of the commodity situation; (2) providing a forum for discussing problems, exchanging views, and studying national policies; (3) sponsoring specialized commodity study groups; (4) reviewing proposals for action and making recommendations; (5) publishing reports on commodity policies and developments; (6) co-operating with other international commodity agencies in the preparation and review of commodity situation reports and in considering proposals for action programs.

A major activity is the study of the problem of commodity surpluses by the Sub-Committee on Surplus Disposal located in Washington which is concerned with ways and means of using surpluses to establish national food reserves and/or to finance economic development in under-developed countries. Special aspects of the surplus problem are also the concern of other FAO commodity groups such as the Group on Grains which has undertaken study of the causes of the present imbalance in the wheat and coarse grains situation and the commodity groups concerned with rice, copra, cocoa and dairy products.

Canada and the FAO.—Canada's interest in the FAO goes back to the days of the Hot Springs Conference. The United Nations Interim Commission on Food and Agriculture was established by this Conference and was headed by a Canadian. It laid the groundwork for the first FAO Conference which was held at Quebec City in 1945. In

the same year the Canadian Parliament passed the Food and Agriculture Organization of the United Nations Act which provided for the carrying into effect of the "Agreement for a Food and Agriculture Organization of the United Nations between Canada and certain other Nations and Authorities". This Act approves the Constitution of the Food and Agriculture Organization and empowers the Governor in Council to make such appointments, establish such offices, make such Orders in Council and do such things as appear to him necessary for carrying out the provisions of the Constitution.

Canada is a member of the Council, the Committee on Commodity Problems (CCP), the Consultative Sub-Committee on Surplus Disposal, and the FAO Group on Grains, and is participating in a number of working parties sponsored by the FAO dealing with a variety of problems.

Nearly 100 Canadians have been on FAO technical assignments since 1951. For some of these experts there were repeat performances. Others have been invited to participate on panels of experts dealing with nutrition, plant protection, forestry and fisheries. A number of Canadians are on the staff at Headquarters in Rome.

Early in 1946 member nations were invited to establish the National FAO Committees to maintain liaison between FAO Headquarters and their respective governments. In accordance with this request a Canadian Interdepartmental FAO Committee was formed to provide a link between the FAO and the Canadian Government on questions pertaining to FAO. The Committee is composed of senior government officials representing the Departments of Agriculture, Fisheries, Northern Affairs and National Resources (Forestry), National Health and Welfare (Nutrition), Trade and Commerce, External Affairs, Finance, and the Dominion Bureau of Statistics.

Section 2.—Provincial Governments, in Relation to Agriculture*

Subsection 1.—Agricultural Services

Newfoundland.—Government agricultural services in Newfoundland are operated by the Agricultural Division of the Department of Mines and Resources. The Division is in charge of a Director who is assisted by a staff of 21 officers. For purposes of administration, the province is divided into nine districts. A fieldman with permanent headquarters is located in each district except Labrador, where the officer is resident for the summer only. Officers in charge of different phases of agricultural development visit each district on assignments from the St. John's office.

Departmental policies in support of the agricultural industry include: assistance in the clearing of land with government-owned and -operated tractors; a bonus of \$125 an acre on land cleared by privately owned equipment; the distribution of ground limestone at a subsidized rate; the payment of bonuses on purebred sires; and financial assistance to agricultural societies, marketing organizations and exhibition committees. An inspection service is provided for poultry products, vegetables and blueberries, production of the latter being encouraged by the burning of suitable berry areas and the improvement of roads and trails leading to them. Small fruit development is promoted through the distribution of quality foundation stock.

Every encouragement is given to the production of livestock. An experimental sheep flock is maintained. Poultry and beef production have increased with favourable marketing conditions and with departmental assistance and loans under the Provincial Farm Development Loan Act. A veterinary supervises the health of animals program and the joint federal-provincial project for the eradication of bovine tuberculosis.

The Agricultural Division co-operates with the Department of Education in furthering the 4-H Club movement in the province and accepts responsibility for all projects pertaining to agriculture.

* Information supplied by the agricultural authorities of the various provinces.

Prince Edward Island.—The activities of the provincial Department of Agriculture are suggested by its staff which includes, in addition to the Minister and Deputy Minister, a Dairy Superintendent and Assistant, two Check Testers, a Director of Veterinary Services and six subsidized practicing Veterinarians, a Horticulturist, a Soil Analysis Assistant, a Poultry Director, an Economist, an Agronomist, a Director of Field Work and three Agricultural Representatives, a Chief Forester and Assistant, a Director of Farm Improvement, a Nursery Supervisor, and a Director, an Assistant Director and two Extension Workers of Women's Institutes.

Nova Scotia.—The Department of Agriculture and Marketing endeavours to "help the people to help themselves" through strengthening member interest in such organizations as the Nova Scotia Federation of Agriculture, Nova Scotia Fruit Growers' Association, various agricultural co-operative organizations, credit unions and producer organizations. The Department is assisted by the Nova Scotia Advisory Committee on Agricultural Services which has been established to promote agricultural policies and projects of the federal and the provincial Departments of Agriculture. The Committee meets quarterly to determine how the work of these Departments may be co-ordinated and directed through integrated agricultural policies and with a minimum duplication of services.

New Brunswick.—Provincial government agricultural policy in New Brunswick is directed by the Department of Agriculture. The Department is headed by the Minister of Agriculture who is assisted by a Deputy Minister and the Directors of the following services: extension, livestock, dairy, veterinary, poultry, horticulture, field husbandry, plant protection and promotion, agricultural engineering, home economics, Credit Union Co-operative Association, agricultural education, apiculture, and agricultural societies.

Quebec.—The Department of Agriculture of Quebec comprises 11 services: rural education, rural economy, extension, animal husbandry, horticulture, field husbandry, information and research, home economics, animal health, rural engineering, and the secretariat. Each service is divided into sections dealing with particular problems.

The Department also includes many other special organizations such as the Research Council, the Dairy Industry Commission, the Dairy School of St. Hyacinthe, the Provincial Extension Farm (Deschambault), the Fur Bearing Animals Extension Farm (St. Louis de Courville). The Farm Credit Bureau, the Quebec Sugar Refinery (St. Hilaire) and the Provincial Veterinary School (St. Hyacinthe) are also under the authority of the Minister of Agriculture and the Office of Rural Electrification is connected with the Provincial Executive Council.

The annual competition for the Agricultural Merit Order, organized in 1890, is held successively in each of five regions. Each contest lasts five years and covers various farm products; its objective is to ascertain the personal merit of the competitors who have most distinguished themselves in the agricultural field and can serve as examples. County Farm Improvement Contests have for 30 years promoted better methods of culture designed to increase farm income and 7,380 competitors have benefited from them.

The Drainage Service deals with soil improvement or land reclamation by dredging the large watercourses with its own equipment or under contract and by renting equipment at very low rates to farmers who wish to improve their croplands. The Department of Agriculture also gives assistance to such projects in the form of grants. Soil improvement measures include large drainage projects carried out by the Department and smaller projects carried out by groups of farmers with government help. In 1957, 42,497 farmers benefited from help given by this service.

Various forms of assistance are offered towards improvement of crops and livestock. An artificial insemination station operates at St. Hyacinthe for the benefit of breeders' clubs, and plant breeding stations for cereal and forage crops, vegetables and small fruits are maintained in a number of localities. Trained specialists are employed in the work of controlling plant and animal pests and diseases; the main laboratories are situated at Quebec City and field laboratories are located in other districts.

Agricultural co-operation is widespread in Quebec. There are 513 co-operatives with over 69,000 members and 89 agricultural societies with 28,241 members to serve local interests and organize county exhibitions. There are also 730 Cercles de Fermières (Women's Institutes) in operation with a membership of 41,000; 421 farmers' clubs with a membership of 19,924, and 145 junior farmer clubs where 4,600 young boys and girls are working on numerous practical agricultural projects.

The Farm Credit Bureau was established in 1936. By December 1957 the Bureau had made 58,819 loans to the farmers amounting to a total of \$154,000,000; 25,011 of these loans were for the establishment of young men on farms.

Ontario.—The Ontario Department of Agriculture provides financial assistance and administrative services to agriculture through its Head Office, nine branches, three experimental farms, two demonstration farms, and through research and extension work carried on at the four educational institutions under its administration. Head Office, in addition to general administration, administers policies providing assistance to farmers and settlers in northern Ontario in connection with land breaking and clearing and improvement of farms and livestock.

The Live Stock Branch promotes livestock improvement policies, gives support to purebred livestock associations, and licenses artificial insemination centres, community sales, wool warehousemen and egg grading stations.

The Field Crops Branch assists in the development of good cultural practices and promotes the use of improved strains of seed, the improvement of pastures, and the eradication of weeds.

The Dairy Branch provides an inspection, instruction and supervision service to all dairy factories and promotes the production of clean milk on farms. The Milk Industry Board of Ontario under the Milk Industry Act, 1957, as part of the Dairy Branch administration, regulates and supervises the marketing of milk and cream.

The Farm Economics and Statistics Branch carries on research in farm business including cost analysis, marketing, and land use. In co-operation with the Dominion Bureau of Statistics, it gathers and publishes statistics of agricultural production.

The Markets Branch administers the Farm Products Marketing Act; the Farm Products Grades and Sales Act; the Co-operative Loans Act, 1956; the Grain Elevator Storage Act, 1958; and the Farm Products Containers Act.

The Agricultural and Horticultural Societies Branch gives assistance to agricultural and horticultural fairs and exhibitions, ploughing matches and other competitions, and administers the Community Centres Act.

The Extension Branch carries on an educational and extension service through agricultural representatives located in all counties and districts and gives direction to 4-H Club work and the Ontario Junior Farmers' Association. Through the Home Economics Service, the Extension Branch gives leadership and direction to organized activities of rural women.

The Information Branch prepares and distributes—through press, radio, television, and publications—information of value to producers and consumers of Ontario farm products.

The Ontario Junior Farmer Loan Branch administers the Junior Farmer Establishment Act, 1952.

The Horticultural Experiment Station at Vineland, the Western Ontario Agricultural School and Experimental Farm at Ridgetown, the Kemptville Agricultural School, the Ontario Agricultural College including Macdonald Institute, and the Ontario Veterinary College at Guelph, all under the administration of the Department, provide research and extension services to Ontario Agriculture. Demonstration farms are operated at New Liskeard and at Sault Ste. Marie in northern Ontario. Both farms are used to demonstrate methods adaptable to the area concerned; present emphasis is on beef cattle production.

The Ontario Department of Agriculture is responsible for the administration of the Ontario Telephone Authority.

Manitoba.—The Department of Agriculture serves Manitoba through the following branches: agricultural extension; livestock; dairy; soils and crops; agricultural publications and statistics; weeds administration; co-operative services; and the provincial veterinary laboratory.

The Extension Service deals with agricultural economics, horticulture, poultry, agricultural engineering, beekeeping, 4-H Clubs and women's work, and has specialists devoting attention to these subjects. Meetings, field days and short courses are held. Thirty-five agricultural representatives are located throughout the province, each serving from one to five municipalities; twelve home economists serve designated areas.

The Live Stock Branch administers the Animal Husbandry Act, develops and administers policies that encourage the improvement and production of livestock, and works in close co-operation with the Veterinary Laboratory Service and the federal Health of Animals Division in the control of livestock diseases.

The Dairy Branch administers the Dairy Act, supervises the grading of cream, inspects creameries and cheese factories, gives instruction in cheese and butter making, issues licences to makers of dairy products and to cream graders and conducts a dairy-cost study among milk producers. Extension activities include addressing meetings and preparing articles and leaflets on dairy farm problems.

The Soils and Crops Branch deals with grain and forage crops, conservation and fertility and provides liaison between the Government of Manitoba and the Government of Canada in regard to PFRA projects. The Branch develops and administers policies that encourage good field crop husbandry and conservation practices.

The Agricultural Publications and Statistics Branch publishes and distributes annually approximately 100,000 bulletins, circulars, posters, leaflets, etc.

The Weeds Administration Branch directs the activities of 18 municipal weed control units comprising 70 rural municipalities engaged in eradicating deep rooted, persistent, perennial weeds; supervising weed demonstrations; investigating weed problems; conducting weed surveys; and preparing weed literature, radio addresses, articles, pictures, mounted weed specimens, etc.

The Co-operative Services Branch takes care of the registration and supervision of co-operatives and credit unions and the administration of the Acts governing them. The Branch also collects and compiles statistics on co-operative activity throughout the province.

The Veterinary Laboratory operates a diagnostic laboratory for animal diseases, the services of which are available to veterinarians and livestock owners.

Saskatchewan.—The Saskatchewan Department of Agriculture is organized in the following branches and services.

The Administration Branch handles general staff records and accounts. Data on crop conditions, production, marketings and income are collected and farm information dispensed daily over seven private radio stations.

The Agricultural Representative Service has a field staff of 37 agricultural representatives, four area supervisors and specialists in farm management, farm mechanics, and visual aids. An extension field staff is provided for all Branches of the Department as well as for the other agencies operating within the Co-operative Agricultural Extension Program. Agricultural representatives are active in all federal, provincial and university farm services. In farm labour matters co-operation is maintained with the federal Department of Labour and the National Employment Service in directing annual movements of farm labour in and out of the province. Agricultural representatives work through Agricultural Conservation and Improvement Committees in each rural municipality and local improvement district to supply the farmer with scientific and practical information.

Committees study local farm problems and initiate improvement programs. Through an Earned Assistance Program the Department pays one-half the cost of local group development projects.

The Animal Industry Branch has four divisions. The Dairy Division administers dairy herd improvement programs and assists producers with management and production problems; inspects and licenses dairy manufacturing and frozen-food locker plants; and administers dairy, locker plant and margarine legislation. The Livestock Division encourages the use of suitable animals for breeding purposes by the establishment of purebred sire areas and by assistance in the purchase and distribution of stallions, bulls, boars and rams. It registers brands, licenses livestock dealers and agents and promotes programs on insect control, feeding and management. The Poultry Division maintains flock testing and turkey grading services; administers an approved hatchery policy; licenses produce dealers and poultry buyers, hatcheries and hatchery agents. It also assists with poultry shows and field days and otherwise promotes flock improvement. The Veterinary Division assists students in veterinary science under a scholarship plan, administers disease testing and vaccination programs and co-operates with Federal Government officials and local veterinarians in disease prevention and control.

The Conservation and Development Branch provides engineering services for irrigation development, usually in co-operation with the Federal Government, and for drainage programs and projects. Reclamation of land by drainage, development of misused land and under-utilized land, and construction of provincial community pastures all come within its jurisdiction. The Branch provides engineering assistance to conservation and development areas, water users' districts, and irrigation districts in connection with water control projects.

The Lands Branch administers all Crown, school and Land Utilization Board lands except forest reserves and parks in the settled area of the province; classifies it according to the use for which it is best suited; disposes of such lands under long-term leases; secures land control for land utilization projects; supervises new settlement projects and operates provincial community pastures.

The Plant Industry Branch organizes and administers programs for crop improvement and crop protection, and advises on seed and crop improvement, soil conservation, horticultural problems, weed control and management of irrigated land. The improvement of grassland is promoted through a forage crop program. The Seed Plant Division carries on custom cleaning of forage seeds and registered cereals. The Apiary Division advises on beekeeping and honey production, supervises and carries on continuous inspection.

The Agricultural Machinery Administration, established in 1958, carries out a testing service on farm machinery as well as an inspection service, and licences dealers in farm machinery.

Alberta.—The Alberta Department of Agriculture is organized in the following branches and services.

The Field Crops Branch administers programs and policies relating to crop improvement, soil conservation and weed control, crop protection and pest control, horticulture and apiculture. Agricultural Service Boards have been organized in municipal districts to assist with agricultural programs, and the Department of Agriculture is represented on each Board.

The Live Stock Branch aids in maintaining the quality of herds and flocks by assisting farmers in securing purebred herd sires and assists artificial breeding associations in the breeding of dairy cattle. The Branch also supervises livestock feeder associations and administers legislation relating to stock inspection, brands, domestic animals and the sale of horned cattle.

The Dairy Branch administers the Dairymen's Act and the Frozen Food Locker Act. Grading and purchasing of raw produce by all dairy plants are under regulation, as are standards of construction, manufacture, processing, sanitation, and temperature control for dairies and frozen food lockers. A regular cow-testing service is available to dairy

producers and the Branch laboratory conducts chemical and bacteriological analyses needed for industrial directives. Yearly cost studies and dairy farm management services are in operation in the principal milk-producing areas.

The Poultry Branch carries on programs for the improvement of poultry husbandry and supervises flock approval for the control of pullorum disease. The Branch issues hatchery, wholesale, first receiver and truck licences for the handling of poultry products.

The Veterinary Services Branch provides scientific diagnoses of livestock and poultry diseases through its laboratory; conducts investigations of disease conditions; lectures in veterinary science at the University of Alberta, Schools of Agriculture, and many meetings; and promotes government policies aimed at reducing losses throughout the province.

The Agricultural Extension Service operates 43 offices and employs the services of 56 district agriculturists and 20 district home economists. The district agriculturists assist farmers with their problems and advance departmental policies designed to improve the standard of agricultural practices. The district home economists provide a similar service for farm women. Bulletins are prepared dealing with agricultural and home economics topics. The Branch is responsible for the supervision of agricultural societies and, in co-operation with the federal Department of Labour, is concerned with recruitment and placement of farm labour.

The Fur Farms Branch administers the licensing and exporting of live animals and pelts, and assists fur farmers in care, management and stock improvement.

Schools of Agriculture and Home Economics are operated at Olds, Vermilion and Fairview (*see* p. 408).

A Radio and Information Branch conducts five broadcasts a week over seven radio stations and issues weekly bulletins to press and radio.

The Water Resources Branch deals with water rights, drainage, irrigation, and water power development.

The Land and Forests Utilization Committee, composed of representatives from the Department of Lands and Forests, Power Commission, Department of Municipal Affairs, University of Alberta and the Department of Agriculture, deals with the proper use of submarginal agricultural land.

Credit is made available to young farmers for the purchase of farm lands under the Farm Purchase Credit Act.

British Columbia.—The Department of Agriculture has four main branches. The Administrative Branch is responsible for the general direction of agricultural policies, administration of legislation affecting agriculture and for the compilation of reports and publications. This Branch also maintains direct supervision of the Field Crops, Soil Survey, Plant Pathology, Entomology, Apiary, Markets and Statistics, Farmers' Institutes and Women's Institutes Branches.

The Livestock Branch engages in the promotion and supervision of the livestock industry and provides veterinary services affecting disease control regulations as well as supervising stock brands, inspection of dairy and fur farm premises, and inspection of beef grading. The Branch also supervises the operations of the Dairy Branch in the inspection of commercial dairy premises. Officials are stationed at 11 centres throughout the province.

The Horticulture Branch supervises fruit, vegetable and seed production, and provides advice on plant diseases and insect pest control. The Branch maintains field offices at 11 points in the southerly section of the province.

The Agricultural Development and Extension Branch offers general information services to farmers through 19 offices which cover all major farming districts. In addition, this Branch provides agricultural engineering service, supervision of the government land clearing program, farm labour services and promotion of junior club projects. The Poultry Section offers extension services to the poultry industry.

Subsection 2.—Agricultural Colleges and Schools

All provinces provide facilities or assistance for training in agricultural science at university level. The colleges and schools are administered by either the Department of Agriculture or the Department of Education of the respective province.

Newfoundland.—There are no agricultural colleges in the province, but the Agriculture Division of the Department of Mines and Resources provides a number of scholarships annually for young men to attend agricultural colleges in other provinces.

Prince Edward Island.—A two-year course in scientific agriculture offered at Prince of Wales College, Charlottetown, prepares students for third year at Macdonald College, Que. In the Vocational School, short courses provide knowledge and skill in agricultural pursuits and develop in the student a sense of the dignity and importance of agriculture as a calling and an understanding of the value of the industry to the province.

Nova Scotia.—The Nova Scotia Agricultural College at Truro offers two courses: the first two years of a degree course in agriculture; and a two-year course in vocational agriculture. The College assists in conducting short courses at various provincial centres, supports Folk Schools and gives direction to 4-H Club organizations. Tuition is free for Canadian students.

New Brunswick.—The four agricultural schools of New Brunswick are located at Woodstock, Fredericton, St. Joseph and St. Basile. Two-term agricultural courses extending over five months each year are offered at Fredericton, St. Joseph and St. Basile and a three-year course is conducted at Woodstock. The curriculum includes training in all phases of agriculture, shop and general academic work. Ten-month home economics courses are also offered at Woodstock and St. Joseph.

Quebec.—Four-year university courses leading to a degree of Bachelor of Science in Agriculture are available through Laval Faculty of Agriculture (Ste. Anne de la Pocatière), L'Institut Agricole d'Oka (affiliated with the University of Montreal), and McGill Faculty of Agriculture (Macdonald College). The Provincial Veterinary School at St. Hyacinthe (affiliated with the University of Montreal) offers a four-year course leading to a Doctorate in veterinary medicine. There are also 17 secondary agricultural schools throughout the province, and five orphanages offer courses in agriculture. More than 1,500 students, the great majority of whom are sons of farmers, attend these intermediate or regional schools of agriculture and in the orphanages 200 pupils follow practical agricultural courses. A farm is always annexed to the school for practical training and specialists give instruction on the maple-sugar industry, farm mechanics, co-operatives, plant protection, veterinary hygiene, aviculture, marketing and silviculture. School co-operatives and clubs are organized and directed by the pupils under supervision. Household science training for the daughters of farmers and settlers is given in nine of these schools.

Ontario.—A two-year course at the Ontario Agricultural College (for the Associate Diploma in Agriculture) provides basic training for young persons interested in making agriculture their vocation. Study includes the application of science to agricultural practice and training for rural citizenship. A four-year course at the same institution for the degree of Bachelor of Science in Agriculture gives fundamental education in the science of agriculture. Sound training is provided for farming as a profession, for entrance into government extension and allied agricultural services, agricultural industry or teaching, and for those who wish to proceed to graduate studies for Master's and Doctorate degrees. Graduate courses are offered leading to the degree of Master of Science in Agriculture. Graduate students are enrolled in a department or departments of the Ontario Agricultural College conjointly with a department or departments of the University of Toronto for advanced courses of study and training in experimentation and scientific investigation. M.S.A. graduates may go into teaching, research, or postgraduate study.

Macdonald Institute offers two main courses in home economics for young women. The one-year course of practical training in the art and science of homemaking earns a diploma of merit but gives no professional standing. The four-year professional course leads to a Bachelor of Household Science degree granted by the University of Toronto. University matriculation standing (nine papers of grade 13) is necessary to enter the four-year course. At its completion, Food Administration Option graduates are eligible to work in the professional dietetic and food-service fields. These graduates and those of the Clothing and Textiles Option and the Home Management Option are finding increasing employment in many areas of work, notably education, extension, business and research fields.

The Ontario Veterinary College offers a five-year course leading to the degree of Doctor of Veterinary Medicine. In addition to its function as a teaching institution, the College is a research centre for diseases of animals and provides free consultation for veterinary surgeons in practice as well as extension services in the interests of the livestock industry.

The Kemptville Agricultural School offers: a diploma course in agriculture, comprised of two six-month terms, giving practical training in modern farming methods and community leadership, and designed primarily for young people who wish to farm but serving also as a preparation for many other occupations closely connected with agriculture; a six-month advanced course in agricultural mechanics for diploma graduates in agriculture; a six-month homemaker course leading to a diploma in homemaking and qualification for the less exacting positions in fields of home economics; a diploma course comprised of two six-month terms for girls wishing to prepare for positions in the food services, sewing centres, tourist trade and other fields of home economics. In addition, a three-month course is given for dairy apprentices, leading to the Dairy School Diploma required for certified buttermakers, cheesemakers and operators of dairy manufacturing plants. A 450-acre farm and residence life are features of the Kemptville Agricultural School.

The Western Ontario Agricultural School offers a two-year diploma course in agriculture (October to April), which gives practical training in modern farming methods and prepares young men to serve agriculture in allied occupations. The facilities comprise a group of modern buildings, including a residence and dining hall, modern classrooms, laboratories, and athletic facilities. There is a 425-acre farm with up-to-date equipment, much of which is used for student activity and for practical demonstrations. A full complement of livestock is maintained on this farm for carrying out the school program.

Manitoba.—The Faculty of Agriculture and Home Economics of the University of Manitoba offers degree courses in agriculture and home economics as well as a two-year, sub-collegiate diploma course in agriculture. Practical short courses in agriculture and homemaking are also given at the Agricultural and Homemaking School at Brandon.

Saskatchewan.—Saskatchewan offers a degree course in agriculture designed to meet the needs of those who intend to teach agriculture in secondary schools or colleges, to engage in research or administrative work, or to farm. Specialization is possible with permission of the faculty. Provision is made for combined courses in agriculture and arts or commerce. Postgraduate courses are available.

The Saskatchewan School of Agriculture offers a practical course intended to give sound training in farm practice and also to train young men in rural leadership.

All courses leading to a degree in home economics require four years. The prescribed course of studies for the first two years is the same for all pupils but in the third and fourth years four types are offered: (1) for teachers, (2) for dietitians, (3) general, and (4) additional specializations. A combined course leading to a degree in arts and science and in home economics requires at least five years.

Alberta.—The University of Alberta offers a four-year degree course in agriculture to students with senior matriculation or its equivalent. Students may elect a general program or major in a wide range of special courses in the fields of animal science, economics, entomology, dairying, plant science, and soils. Graduate work at the Master level is offered in all departments and at the Doctorate level in some.

The Alberta Schools of Agriculture and Home Economics, located at Olds, Vermilion and Fairview, offer practical courses in agriculture and homemaking. The purpose of the schools is to train young men for farming and young women for homemaking. Students must have grade 9 standing for entrance into the regular two-term course. A one-year course is offered to those who have 70 or more high school credits. Living accommodation is provided as well as auditorium and gymnasium facilities.

During the summer months the schools are used for agricultural meetings and conferences of organizations that are connected with agriculture. During the month of July, leadership courses, 4-H Club gatherings, farm camps and other events keep the facilities in constant operation.

British Columbia.—The Faculty of Agriculture at the University of British Columbia offers a four-year general degree course in agriculture and a five-year honours course. In the honours course there are 15 fields in which a student may specialize. Work is also offered by the Faculty of Agriculture in the Faculty of Graduate Studies through which a student may proceed to the degrees of Master of Science in Agriculture and Master of Science; in a limited number of fields, work is offered at the Doctorate level. The Faculty also offers a one-year or two-year diploma course in occupational agriculture, adaptable to the needs of individual students.

In co-operation with various branches of the provincial Department of Agriculture and under the auspices of the University Extension Department, the Faculty of Agriculture also offers a number of short courses which vary in length from one or two days to several weeks.

Section 3.—Agricultural Irrigation and Land Conservation

Subsection 1.—Federal Projects*

Prairie Farm Rehabilitation Act

The PFRA program was instituted by Act of Parliament passed in 1935 to provide for rehabilitation of the drought and soil-drifting areas in the Provinces of Manitoba, Saskatchewan and Alberta. It was later continued in force and its scope enlarged. The Act is designed to promote better cultural practices, to develop surface water resources for stock-watering, domestic use and irrigation of crops, particularly of forage and seed.

The administration of the Act is carried out from headquarters at Regina and its programs include water development, community pasture development, rehabilitation and re-settlement of farmers from submarginal lands on irrigated lands, and large-scale irrigation and reclamation projects. Large irrigation and reclamation projects in Western Canada are authorized by special vote of the Federal Government and are carried out and financed jointly with the provinces concerned under agreements which set out the responsibilities of each party in the development work. Federal responsibility is administered by the PFRA.

Water Conservation Projects.—As a rehabilitation measure within the drought area of the three Prairie Provinces, PFRA provides engineering and financial assistance to farmers for the construction of water conservation works. The amount of financial assistance awarded is largely dependent upon the type and size of project constructed. Authority to proceed with construction is secured through the respective provincial water rights departments.

During 23 years of operation, PFRA has provided assistance to farmers for the construction of 56,094 individual farm dugouts and small dams, many of which are suitable for irrigation. In this way, adequate water storage facilities are being developed where water shortages exist, thereby extending widely the benefits of water throughout the dry

* Prepared under the direction of Dr. J. G. Taggart, C.B.E., Deputy Minister of Agriculture, Ottawa.

areas of the prairies. By establishing a dependable water supply for domestic use, for stock-watering and for the production of feed and seed through irrigation, many prairie farmers have been rehabilitated without the necessity of moving to a new location.

The development of community water conservation projects is confined to the more well-defined watersheds. Where agricultural groups wish to utilize water on a community basis, PFRA may agree to finance the construction of the capital works provided the province or local organization involved assumes responsibility for the development and maintenance of the project after it has been completed. To Mar. 31, 1958, PFRA provided the necessary assistance to construct 421 community projects, the majority of which are located in the six watersheds originating in the three Prairie Provinces. These projects conserve surplus spring run-off water making it available for use during dry periods.

In addition, PFRA has established and continues to administer, five community irrigation projects in the drought area of southwestern Saskatchewan in accordance with the Government of Canada's rehabilitation and re-settlement policies. These projects are located at Val Marie, Eastend, Consul, Maple Creek and Swift Current and obtain their water supply from creeks originating in the Cypress Hills. The irrigable land on these projects is apportioned out in 40- to 60-acre plots to farmers in surrounding districts on the basis of need, for the production of assured livestock feed supplies.

Major Irrigation Projects.—*St. Mary Irrigation Project.*—To make available for irrigation a larger percentage of the water flowing through southern Alberta in the Waterton, Belly, St. Mary and Milk Rivers, a program to extend the original St. Mary Irrigation Project was undertaken by an agreement between the Government of Canada and the Province of Alberta. The Government of Canada agreed to construct the main supply reservoirs and the connecting canals, while the Province of Alberta undertook the responsibility for construction of the irrigation distribution system. When completed, this project will extend irrigation to approximately 510,000 acres of land in the area south of Lethbridge and east beyond Medicine Hat.

Construction of the St. Mary Dam, key structure on the whole project, was completed in 1951. During 1958 the second phase, involving the diversion of the Belly River into the St. Mary Reservoir, was completed. The third step, which is the diverting of the Waterton River into the St. Mary Reservoir by way of the Belly River diversion, is under construction. The present storage and distribution facilities extend irrigation to 296,000 acres of land in the St. Mary Project. With the addition of resources of the Waterton River, a further 214,000 acres of land will be brought under irrigation.

British Columbia Projects.—Irrigation development in British Columbia has been undertaken in connection with the Veterans' Land Act and at the request of the British Columbia Government. Intensive farming is practised in the Okanagan and South Thompson Valleys. The land developed for irrigation by PFRA is used mainly for the growing of small fruits and vegetables and for dairying.

Three irrigation projects in the South Thompson Valley area—the Johnstone Western Canada Ranching Irrigation Projects No. 1 and No. 2, and the Chase Irrigation Project with a total of 809 acres of land—have been developed for the benefit of about 40 veterans of World War II.

In the Okanagan Valley, the Penticton West Bench Project, completed in 1953 to irrigate 205 acres and accommodate 94 veterans, was extended in 1958 to provide an additional 69 small holdings for veterans. Three other irrigation projects have been completed in the Okanagan Valley for the settlement of war veterans—the Cawston Benches project east of the town of Keremeos, and the Westbank and Bankhead projects near Kelowna. Together they provide 1,782 acres of irrigated land for 170 veterans.

Major Reclamation Projects.—*North West Escarpment Reclamation Project.*—At the request of the Manitoba Government extensive investigations have been undertaken by PFRA in the Riding, Duck and Porcupine Mountain areas and Whitemud River watershed, where serious flood and erosion problems exist in an area containing over 252,000

acres of valuable agricultural land. The reclamation work, the cost of which is divided equally between the Government of Canada and the Province of Manitoba, consists of clearing and dyking stream channels, prevention of streambank erosion and aligning channels by building cutoffs and diversions.

Assiniboine River Project.—This project is being undertaken by PFRA at request of the Manitoba Government to prevent flooding on the Assiniboine River, particularly between Brandon and Virden and between Portage la Prairie and Headingly, where thousands of acres of valuable agricultural land have been inundated repeatedly. A program of dyking and weir cutoffs has been carried out to protect the farm lands from flooding during periods of high river flow. Recently, extensive surveys have been undertaken in the headwaters of the Assiniboine River to locate possible damsites for effective stream flow regulation in the lower reaches of the Assiniboine River.

South Saskatchewan River Project.—In July 1958 agreement was reached between the Government of Canada and the Province of Saskatchewan to start construction on the South Saskatchewan River Project, a large-scale multi-purpose water conservation project proposed for development in south-central Saskatchewan. The purpose of the project is to make better use of the water resources of the river through irrigation, river control, power, urban water supply, and recreation. Control will be achieved by two dams, the major one on the South Saskatchewan River at a point approximately half-way between the towns of Outlook and Elbow and the other at the divide between the valleys of the South Saskatchewan and Qu'Appelle Rivers. The agreement provides that Canada and Saskatchewan will share the cost of building the dams and all other works associated with the creation of the reservoir; 75 p.c. will be borne by the Federal Government and 25 p.c. by Saskatchewan, the province's share to be not in excess of \$25,000,000. The contribution of the Government of Canada toward the cost of the project is in accord with its long-range resource development plan to provide for expansion and stability in the country's economy.

The project, when completed, will provide water for the irrigation of approximately 500,000 acres of land located in central Saskatchewan on both sides of the South Saskatchewan River between the town of Elbow and the city of Saskatoon and in the Qu'Appelle Valley extending east of Elbow to the Manitoba border. Power installations at the damsites will have a potential output of 475,000,000 kwh.

Bow River Irrigation Project.—The Bow River Project in Alberta was purchased by the Government of Canada in 1950 from the Canada Land and Irrigation Company, a private British interest. The land associated with this project is being developed for the rehabilitation and re-settlement of farmers from the drought and soil-drifting areas of the Prairie Provinces. Its development will ensure a water supply to 100,000 acres of land at present irrigated, and will make possible the irrigation of an additional 140,000 acres of provincial and privately owned land. The repairing and enlarging of old structures and the construction of new facilities to serve the total acreage is proceeding according to plan.

Red Deer Irrigation Project.—The proposed Red Deer River development concerns the irrigation of an estimated 300,000 acres of land located in the east-central part of Alberta. The project will consist of a dam on the Red Deer River at Ardley and about 100 miles of main canal to two main reservoirs—Craig Lake and Hamilton Lake. The dam will contain power installations to produce power for pumping and also for sale commercially. Capacity is estimated at 20,000,000 kwh.

Saskatchewan River Reclamation Project.—Surveys and investigations were made by PFRA to determine the possibility of successfully reclaiming land for agriculture in the Pasquia area of the Saskatchewan River delta region near the town of The Pas in Manitoba. As a result an agreement was reached early in 1953 between the Government of Canada and the Province of Manitoba for the construction of the necessary reclamation works to protect the area from flooding and to settle about 100,000 acres of arable land; the Government of Canada will assume the cost of building the main protective works, and Manitoba the costs of settlement, maintenance of works, and internal drainage. One-

half of the reclaimed land is to be reserved for the re-settlement of farmers from drought areas and the remainder is to be sold. Part of the proceeds from the sale of the lands will go to the Federal Government as a partial reimbursement of the costs of building the main protective works. Construction began early in 1953 and the main works are now in operation.

Lilloet Valley Reclamation Project.—This project was undertaken upon agreement between the Government of Canada, the Government of British Columbia and the Pemberton Valley Reclamation District and is located in the Lilloet River Valley above and below the town of Pemberton. Its objective is to protect lands now under cultivation from flooding and to reclaim additional lands by dyking and drainage. The land so far reclaimed, amounting to 14,000 acres, allowed farmers in the district to increase their holdings and permitted the settlement of hundreds of additional inhabitants.

Land Utilization—In addition to improved cultural methods and water conservation activities, rehabilitation of drought areas involves the conversion to grass production of large tracts of land that have proven unsuitable for cereal crop production. By agreement with the Provinces of Saskatchewan and Manitoba, these submarginal lands are leased to the Federal Government which agrees to finance the construction, maintenance and improvement of pasture facilities in these areas. The farmers located within the pasture areas are assisted in re-establishing themselves in new locations.

Since the inception of the land utilization program in 1937, a total of 1,796,275 acres of land have been developed into 62 separate community pastures. These pastures make it possible for the farmers in the surrounding area to stabilize their farm income through increased livestock production. During the year ended Mar. 31, 1958, grazing was provided for 119,398 head of livestock owned by 5,763 patrons.

An extensive improvement program in effect on all pastures is begun as soon as new areas are enclosed, a policy that has more than doubled the carrying capacity of this pasture land. The improvement policies most extensively practised in all pastures are the re-grassing of depleted areas, the development of sufficient stock-watering sites, and the following of proven pasture management policies such as controlled grazing and maintaining a 50-p.c. grass carryover where feasible. Since 1938, approximately 200,000 acres of land in community pastures have been re-grassed, and more than 1,200 stock-watering dams, dugouts, springs and wells have been constructed.

Maritime Marshland Rehabilitation Act Administration (MMRA)

Under the terms of this Act, Canada has undertaken to protect and rehabilitate the tidal marshlands in Nova Scotia, New Brunswick and Prince Edward Island in co-operation with the respective provincial governments. The principal function of MMRA is to carry out these responsibilities by constructing dykes, aboiteaux (tide gates) and breakwaters to prevent tidal flooding of valuable agricultural lands. Headquarters of the MMRA organization is at Amherst, N.S.

The construction of large structures near the mouths of some rivers to hold back the tides has made it possible to eliminate the need for many miles of dykes and of numerous small aboiteaux. Such structures not only reclaim larger areas of land but very substantially reduce maintenance costs and provide roadways where bridges would otherwise have been required.

By Mar. 31, 1958, the provinces had asked to have over 150 marsh areas with a total area of 93,983 acres included in this reclamation program: Nova Scotia, 52,616 acres; New Brunswick, 41,092 acres; and Prince Edward Island, 275 acres.

As of March 1958, approximately 75,540 acres of marsh were protected from tidal flooding by structures which were either complete or in process of being built or rebuilt. The individual marsh areas form parts of approximately 3,300 farms having a total area of about 500,000 acres.

On the Annapolis River at the town of Annapolis Royal, N.S., and on the Tantramar River near the town of Sackville, N.B., work is being undertaken to dam these tidal rivers to protect large areas of marshlands. Both dams are designed to carry highway traffic.

Subsection 2.—Provincial Projects

Saskatchewan.*—The Conservation and Development Branch of the provincial Department of Agriculture was established in 1949. Its functions include the administration of water rights; irrigation development, engineering and structures; flood control and drainage; restoration of abandoned, under-utilized and misused lands; and construction of provincial community pastures. Conservation and development activity in the field of agricultural rehabilitation and reclamation is based on co-operation with the Federal Government's PFRA program with which a close working arrangement is maintained. Following is a summary of the activities of the Saskatchewan Department of Agriculture to Mar. 31, 1958.

Water Rights.—Under the Water Rights Act, 5,840 water storage projects for domestic irrigation, municipal, industrial and other like purposes covering 463,450 acre-feet of water have been licensed, and there are 133 gauging stations being maintained by the Federal Water Resources Branch under co-operative agreement to continue hydrometric surveys and a surface water inventory. The Chief Engineer of the Water Rights Office represents the Province of Saskatchewan on the engineering committee of the International Joint Commission and on the Prairie Provinces Water Board.

Irrigation Development.—By the end of Mar. 31, 1958, 94,964 acres of topographic surveys and 169 miles of profile surveys were completed on irrigation projects; 303 miles of ditch were built and 186 miles maintained; 1,454 structures were installed and 74 maintained; and 7,490 acres were levelled.

Flood Control Development.—Topographic surveys of 146,436 acres and 6,389 miles of profile surveys were completed on drainage projects; 748 miles of ditch and 225 miles of road were built and 136 miles of ditch maintained; 37 miles of dyke were built and 783 structures installed in drainage systems.

Development of Under-utilized and Misused Lands.—A total of 61,015 acres of tame perennial forage crops were seeded, mostly for fodder production; 991 miles of fence and 72 watering sites were built or rebuilt in departmental, municipal or co-operative pastures; 750,000 trees were planted; and 97 conservation and development areas totalling 12,000,000 acres were established.

Community Pastures.—Through the Lands Branch of the provincial Department of Agriculture, the province has transferred title to 1,194,574 acres and leased without charge another 341,876 acres of land to PFRA for community pastures. Outside the PFRA program, the province has another 797,454 acres in 110 community pastures operated by co-operative associations, by municipalities or by the provincial Department of Agriculture; in 1957, 18 pastures operated by the province provided grazing for 17,395 head of cattle owned by 959 local farmers.

Development of Land for Cultivation.—Crown lands, either under cultivation or suitable for cultivation, are leased for a 33-year period. The province may either reimburse farmers in cash for the cost of clearing and breaking virgin land or the farmers may retain crop shares equivalent in value to costs sustained. To Mar. 31, 1958, the investment of the province for land clearing and breaking amounted to \$6,528,652, and included work done in six settlement projects involving initial clearing and breaking on about 200 farm units before the land was leased.

Alberta.—The Alberta Water Resources Act gives the Minister of the Department of Agriculture wide powers to investigate the water resources of the province and extensive surveys have been carried out to determine the distribution and extent of the available water supplied in the province and the most beneficial use for irrigation, water power and other purposes. The Water Resources Branch of the provincial Department of Agriculture

* Prepared by W. H. Horner, Deputy Minister, Saskatchewan Department of Agriculture.

administers the licensing of water power projects and the construction work in several irrigation projects. Irrigation projects are also licensed and water allocated for domestic and irrigation purposes. Other work includes administration of drainage districts, co-operation on the Peace River Dug-out Project and on river protection projects where flooding occurs. In more recent years much of this work has been carried out by the Federal Government in co-operation with the Government of Alberta.

Stream measurement is being done by the Hydrometric Service of the federal Department of Northern Affairs and National Resources, and irrigation surveys are carried out largely by the water development organization under the PFRA (*see* p. 408).

In 1958 the Province of Alberta completed the construction of the distribution system for the Western Block of the Bow River Development; the irrigable area is approximately 45,000 acres.

The figures given in Table 5 of land actually irrigated in Alberta in 1957 are only approximate because, while there are increases resulting from the creation of new pump irrigated areas, there are also decreases caused by soil re-classification and less water use, depending on natural precipitation. Seepage and alkali problems also have an effect on acreage quoted as irrigable. Figures for small private irrigation projects have been omitted because of their uncertain water supply.

Gross cash returns from the irrigable area are estimated at \$30,000,000 though this figure does not take into account the value of stockwater supplied through irrigation works. Nor does it include many other credit items that are difficult to evaluate such as the recreational use of water which, to these one-time semi-arid areas, is particularly important, and the value of fish taken from irrigation reservoirs which is known to be quite significant. Several communities receive their entire domestic water supply via irrigation canals.

5.—Major Irrigation Districts in Alberta, 1957

District	Classified Irrigable Area	Area Actually Irrigated in 1957
	acres	acres
St. Mary and Milk Rivers Development.....	259,861	78,665 ¹ 139,000 ²
Magrath Irrigation District.....	7,885	7,039
Raymond Irrigation District.....	19,058	15,009
Taber Irrigation District.....	32,100	21,579
Western Irrigation District.....	50,000	7,000 ³
Eastern Irrigation District.....	250,000	189,793
Bow River Development—		
Federal.....	94,783	55,364
Provincial.....	35,217	2,200
Mountain View Irrigation District.....	3,600	2,773
Leavitt Irrigation District.....	4,631	2,779
Aetna Irrigation District.....	8,303	—
United Irrigation District.....	34,005	15,886
Lethbridge Northern Irrigation District.....	96,135	51,809
Ross Creek Irrigation District.....	2,069	1,685
Macleod Irrigation District.....	3,000	—
Totals.....	990,647	490,581

¹ Old lands.

² New lands.

³ Estimate.

British Columbia.—About 20 p.c. of the arable land in British Columbia is under cultivation and nearly all the grazing area is being utilized. The 1,300,000 acres developed give a ratio of approximately one acre per person. Within this arable area there exists an estimated 211,000 acres of irrigated land and the total area of irrigable land in British Columbia is estimated at 400,000 acres.

About 75 p.c. of the irrigated area is made up of individual projects and the remainder is served by the larger irrigation projects listed in Table 6.

6.—Major Irrigation Projects in British Columbia, April 1959

Project	Water Supply	Potential Irrigable Area	Irrigated Area	Charge on Grade A Land per Acre	Locality
		acres	acres	\$	
Provincial Irrigation System—					
Southern Okanagan Lands Project.....	Okanagan River.....	7,770	4,770	12.50	Okanagan Valley
Municipal Irrigation Systems—					
Penticton Municipality....	Penticton and Ellis Creeks..	2,331	2,081	20.00	"
Summerland Municipality....	Trout and Eneas Creeks....	3,451	3,406	13.49	"
Irrigation Districts—					
Balfour.....	Laird Creek.....	240	150	—	Kootenay Valley
Bankhead.....	Kelowna and Mission Creeks	85	85	24.50	Okanagan Valley
Barriere.....	Barriere River.....	181	129	4.50	North Thompson Valley
B.C. Fruitlands.....	Jameson and N. Thompson Rivers.....	2,300	1,320	15.80	"
Black Mountain.....	Mission Creek and others....	4,297	3,752	15.00	Okanagan Valley
Blueberry Creek.....	Blueberry Creek.....	133	66	15.00	Columbia Valley
Boundary Line.....	Osoyoos Lake.....	95	95	15.93	Okanagan Valley
Brent Davis.....	Mission Creek.....	480	405	5.00	"
Cawston.....	Similkameen River.....	650	400	14.00	Similkameen Valley
Chase.....	Chase Creek.....	639	639	3.50	South Thompson Valley
Covert.....	4th of July Creek.....	280	280	8.50	Kettle Valley
East Creston.....	Arrow Creek.....	1,540	1,357	5.00	Kootenay Valley
East Osoyoos.....	Osoyoos Lake.....	329	188	25.00	Okanagan Valley
Ellison.....	Kelowna Creek.....	760	662	4.95	"
Fairview Heights.....	Similkameen River.....	629	605	20.00	Similkameen Valley
Glenmore.....	Kelowna Creek.....	1,926	1,940	13.00	Okanagan Valley
Grand Forks.....	Kettle River.....	2,500	2,328	5.65	Kettle Valley
Hefley.....	North Thompson River.....	1,653	1,653	1.98	North Thompson Valley
Kaleden.....	Marron River and Shatford Creek.....	553	553	23.00	Okanagan Valley
Keremeos.....	Ashnola River, etc.....	1,128	1,018	16.00	Similkameen Valley
Lakeview.....	Lambly (Bear) Creek.....	1,057	1,052	12.00	Okanagan Valley
Naramata.....	Naramata, Lequine Creeks, etc.....	919	990	20.00	"
Okanagan Falls.....	Okanagan River.....	244	200	(av.) 22.15	"
Okanagan Mission.....	Bellevue Creek and Okanagan Lake.....	534	534	20.00	"
Osoyoos.....	Haynes Creek, etc.....	234	234	25.00	"
Oyama.....	Long Lake.....	362	362	22.00	"
Peachland.....	Peachland Creek.....	550	444	17.00	"
Robson.....	Pass Creek.....	262	250	6.00	Columbia Valley
Scotty Creek.....	Scotty Creek.....	844	844	4.50	Okanagan Valley
Shuttleworth Creek.....	Shuttleworth Creek.....	282	109	8.00	"
South East Kelowna.....	Hydraulic Creek.....	3,065	3,065	13.00	"
South Vernon.....	Vernon Creek.....	319	207	5.00	"
Todd Hill.....	South Thompson River.....	146	118	20.00	South Thompson Valley
Trout Creek.....	Trout Creek.....	365	365	10.00	Okanagan Valley
Valleyview.....	South Thompson River.....	150	128	3.00	South Thompson Valley
Vermilion.....	Kindersley Creek.....	300	300	6.25	Columbia Valley
Vernon.....	Coldstream Creek, etc.....	8,105	6,000	4.00	Okanagan Valley
Vinsulla.....	Knouff Creek, etc.....	298	175	—	North Thompson Valley
Westbank.....	Powers Creek.....	1,008	801	15.30	Okanagan Valley
West Bench.....	Okanagan River.....	224	200	48.60	"
Wilmer.....	Wilmer Creek.....	241	109	5.00	Columbia Valley
Winfield and Okanagan Centre.....	Vernon Creek.....	1,898	1,873	12.00	Okanagan Valley
Wynndel.....	Duck Creek.....	503	503	4.00	Kootenay Valley
Irrigation Companies—					
Wood Lake Water Company.....	Oyama Creek.....	832	832	7.50	Okanagan Valley

Section 4.—Statistics of Agriculture*

The collection, compilation and publication of statistics relating to agriculture is a responsibility of the Dominion Bureau of Statistics. Valuable information obtained through the Censuses of Canada and partial-coverage surveys may be obtained in reports issued by the Bureau.†

The Bureau also collects and publishes primary and secondary statistics of agriculture on an annual and monthly basis. The primary statistics relate mainly to the reporting of crop conditions, crop and livestock estimates, values of farm lands, wages of farm labour and prices received by farmers for their products. The secondary statistics relate to the marketing of grain and livestock, dairying, milling and sugar industries and cold storage holdings.

In the collection of annual and monthly statistics, the federal Department of Agriculture and the provincial Departments of Agriculture, as well as such agencies as the Board of Grain Commissioners and the Canadian Wheat Board, co-operate with the Bureau. Also, many thousands of farmers throughout Canada send in reports voluntarily.

The figures (except for 1956 Census data) contained in this Section do not include estimates for Newfoundland. Agriculture plays a relatively minor part in Newfoundland's economy, commercial production of most agricultural products being quite small.

A review of agricultural production and trade covering the first half of 1958 is given in Subsection 1; details for the year 1957 are presented in Subsections 2 to 9.

Subsection 1.—Review of Agricultural Production and Trade, 1958

There was a steady improvement in the Canadian economy during 1958 which was shared by the agricultural industry. Following two almost unprecedented boom years, there had been a falling-off in trade activity paralleling the recession in the United States and leading to considerable unemployment generally. However, despite this situation, 1958 found farmers still in need of dairy farm help; the number of workers with agricultural jobs dropped by some 34,000 to average 688,000 per month in the first seven months of the year. This figure represented an increase of females and a decrease of males.

Farm cash income at \$1,300,000,000 for the first six months of 1958 was 9 p.c. higher than for the same period of 1957, an increase shared by all provinces. Farm expenditures for machinery, commodities and services were higher but that increase was counterbalanced to some extent by a slight gain in wholesale prices for farm products.

Field Crops.—Canada's 1958 *wheat* crop amounted to 368,700,000 bu., only slightly less than the previous year's production but sharply below the 1956 crop of 573,000,000 bu. Total supplies of wheat in the crop year 1958-59 amounted to 980,200,000 bu. The *oat* crop at 401,000,000 bu. was 20,400,000 bu. larger than in the preceding year while production of *barley* at 244,800,000 bu. was also above the 1957 level of 216,000,000 bu. Total supplies of oats and barley amounted to 555,900,000 bu. and 362,900,000 bu., respectively.

Feed grain grown in 1958 dropped slightly to 21,700,000 tons but was 20 p.c. higher than the previous ten-year average. This coincided with a decline in hay production as a result of summer drought and an increase in livestock numbers, two factors that promised to make inroads into the feed grains supply. In view of the smaller exports of feed grains to the United States where there was a bumper crop, it was considered fortunate that the livestock increase was in grain-consuming rather than roughage-consuming animals. Estimated net supply per animal was about 1.01 tons, down 9 p.c. from the 1957-58 season.

The combined fall and spring *rye* crop was estimated at 8,000,000 bu. giving total supplies for the crop year 1958-59 of 18,100,000 bu., slightly below those of recent years. The United States limited imports of Canadian rye to 3,255,000 bu. a year, starting July 1, and, with world supplies as they are, it is unlikely that new major markets will develop in the near future.

* Revised in the Agriculture Division, Dominion Bureau of Statistics.

† Copies obtainable from the Dominion Statistician or the Queen's Printer, Ottawa.

The production of *sugar beets* in 1958 was estimated at a record 1,345,000 tons. The Alberta crop accounted for 45 p.c. of the total and in Ontario production increased greatly. The national average farm price during 1957-58 was \$13.24 a ton.

The *dried pea* crop of 1,100,000 bu. in 1958 reflected the combined effect of reductions in both seeded acreage and yield. Imports amounted to 40,300 bu. and exports to 524,000 bu. in the 1957-58 crop year. Production of *dried beans* was 1,400,000 bu., Ontario being the chief grower. Exports in the 1957-58 crop year were 100,000 bu., down 24 p.c. from 1957, and imports were slightly lower at 139,100 bu.

The *soybean* crop of 6,600,000 bu. was about the same as in 1957, although Manitoba increased its planted area from 4,000 to 7,000 acres. Ontario, the other producer, had an acreage of 256,000. In the 1957-58 crop year, 146,000,000 lb. of oil and 653,000,000 lb. of oil meal were extracted. The average farm price was \$1.95 per bu. and soybean growers, for the first time, came under the support of the Agricultural Stabilization Board. Imports amounted to 10,800,000 bu. and exports, mostly to the United Kingdom, were 2,100,000 bu.

The *flaxseed* crop at 23,200,000 bu. was about 21 p.c. above the 1957 production. Although acreage sown was down by 24 p.c. the average yield increased from 5.5 bu. per acre to 8.7 bu. Total supplies in the 1958-59 crop year were estimated at 28,700,000 bu. Crushings in 1957-58 of 202,700,000 lb. of flaxseed yielded 72,200,000 lb. of linseed oil and 124,800,000 lb. of oil meal. Exports at 13,700,000 bu. were lower than in the previous year partly because of higher costs in relation to other vegetable oilseeds.

Despite limited precipitation in the Prairie Provinces and poor early season prospects, the acreage of wheat, barley and flax inspected for *seed registration and certification* was at record levels. Oats inspections were down 33 p.c. Seed of certified cereals, flax, corn, field peas and beans, and soybeans appeared sufficient to meet Canadian requirements and a surplus was available for export. Forage seeds production, with the principal exception of alsike clover and creeping red fescue, was lower than in 1957 and in general the market for forage seeds was stronger and prices to growers higher than in the previous year.

Livestock.—Farm cash income from the sale of livestock, livestock products and poultry in the January-to-September period of 1958 was 13 p.c. higher than in the comparable period of 1957; in fact, it was higher than for any comparable period since 1951. Livestock continued the upward trend that began five years before, but higher meat prices discouraged an increase in domestic consumption, and Canada continued to be a substantial net exporter of livestock and meat. The chief reason for this market buoyancy was the shortage of both feeder and slaughter cattle in the United States and the abundance of feed there.

Farm output of livestock for slaughter in Canada during 1958 totalled 12,229,000 head, an increase of 9 p.c. over 1957. Livestock exports totalled 720,000 head, compared to 407,000 head in 1957, or an increase of 77 p.c. Exports of red meats and offal (fancy meats) amounted to 148,295,000 lb. in 1958 compared with 106,234,000 lb. the previous year, an increase of 40 p.c.

Cattle numbers declined nearly 2 p.c. from 10,293,000 head at Dec. 1, 1957, to 10,112,000 head, the greatest decrease being in steers. Prices of all classes of cattle rose sharply early in the year. Good steers for slaughter ranged from a low of \$20.14 per cwt. (Toronto) in January to finish the year at a high average of \$26.17 in December. The range during 1957 had been from \$19.94 in April to \$17.36 in October. Stocker calves averaged \$20.17 (Toronto) in January and \$29.55 by December.

Hog production increased and commercial marketings reached 6,467,000 head by the end of December 1958, 20 p.c. more than in 1957 and 22 p.c. more than the ten-year average 1948-57. Prices averaged lower than a year earlier and in late October the Agricultural Stabilization Board began to purchase pork in order to prevent prices from dropping below support levels.

Supplies of mutton and lamb were heavier during 1958 despite reduced domestic output. Disappearance increased by nearly 3 p.c.

Dairying.—*Milk* production for 1958 was estimated at a record 18,000,000,000 lb., the increase over 1957 being accounted for by all provinces except Nova Scotia. The additional milk was principally used to make creamery butter, production of which also attained a new record at 336,000,000 lb. Domestic disappearance, however, declined and stocks at the end of the year were about 24,000,000 lb. larger than they were a year earlier.

In contrast, *cheddar cheese* production and disappearance was lower than a year ago. The export of about 15,500,000 lb. left end-of-year stocks smaller than in 1957. Production and disappearance of *evaporated milk* were almost in balance in 1958 at about 310,000,000 lb. and 307,000,000 lb. respectively, prices remaining unchanged for more than a year. *Dried skimmed milk* output at 187,000,000 lb. was by far the largest annual production in Canada's history and was estimated to exceed domestic consumption by about 76,000,000 lb. Of this, 60 p.c. was exported and the remainder added to stocks. *Fluid milk* sales were slightly larger in 1958 as a result of population increase but per capita sales declined.

Fruits and Vegetables.—Most *fruit* crops were larger in 1958 than in 1957; apples, apricots and raspberries were the exceptions. Prices in Ontario for fruits for processing were at 1957 levels or lower, except for strawberries for which the minimum was sharply higher. The apple crop, estimated at 15,400,000 bu., was 3 p.c. below 1957 but 10 p.c. above the 1952-56 average.

Commercial *vegetable* growers planted 195,000 acres in 1958, 5 p.c. less than in the previous year. In Eastern and Central Canada the season was later than usual but favourable weather conditions prevailed during the late summer in the important vegetable-producing sections of southwestern Ontario. As a result of relatively larger packs in 1957 and a consequent carryover, the acreages contracted for corn, peas and tomatoes for canning were lower in 1958.

Other Principal Farm Products.—The 1958 *tobacco* crop was estimated at 182,000,000 lb., green weight, compared with 165,000,000 lb. for 1957. Ontario flue-cured tobacco was calculated at 160,000,000 lb. as against 148,000,000 lb. in 1957. About 136,000 acres were planted to tobacco, 119,000 acres in southern Ontario which was 1,000 acres less than in the previous year. The Ontario Flue-cured Tobacco Growers' Marketing Board reduced the basic acreage allotment per farm by 15 p.c. after allowing a basic exemption per farm of 15 p.c. and allotting acreage to more than one hundred new farms. It is interesting to note that research has made possible the raising of tobacco in the Ottawa Valley of Ontario and in the Annapolis Valley of Nova Scotia; so far production in these areas is on a small scale.

Cigarette consumption in Canada increased from 1,678 per capita in 1956 to 1,817 in 1957 and further increases appear to have taken place judging from the release of 16,000,000,000 cigarettes for consumption in the first half of 1958.

The *potato* crop, estimated at about 38,000,000 cwt. for 1958, recorded a decline of nearly 9 p.c. from 1957.

The volume of *eggs* marketed through registered grading stations showed little change in 1958 as compared with 1957. Heavier marketings in the western provinces offset a decrease in Eastern Canada. The price pattern reflected this situation; producers in Eastern Canada received somewhat higher prices than in 1957 and prices in Western Canada were close to the levels of the previous year. Exports increased, particularly to Venezuela.

Wool prices declined severely in 1958 but, owing to the deficiency payment program under the Agricultural Stabilization Act and a small increase in production, producers received a higher return than in any year since 1952.

The 1958 *maple* crop, expressed as syrup, was 2,400,000 gal., 21 p.c. below that of 1957 but close to the average production for the years 1951-55. Almost 90 p.c. of this crop was produced in the Province of Quebec. Higher prices on farmers' markets reflected the reduced production. Exports of sugar were 6,200,000 lb. in 1958, about 15 p.c. higher than in 1957.

The *honey* crop in 1958 was estimated at 27,500,000; there were fewer beekeepers than in 1957 although more colonies were operated. Stocks at June 30, 1958, amounted to 10,000,000 lb., reflecting the large 32,000,000-lb. crop harvested in 1957.

Subsection 2.—Cash Income from the Sale of Farm Products, 1957

Income from the sale of farm products in 1957 was estimated at \$2,600,000,000, 2.7 p.c. less than the preceding year's estimated total of \$2,700,000,000. The decline may be attributed in the main to lower cash returns from the sale of cereal grains which were offset only in part by higher returns from the sale of livestock and livestock products. On a regional basis, farm cash income in the two central provinces, Ontario and Quebec, and the two most westerly provinces, Alberta and British Columbia, was about the same as in 1956; in all other provinces it was lower.

Field Crops.—Returns from the sale of field crops for 1957 were estimated at \$369,000,000, about 11 p.c. less than the 1956 estimate. In addition to Wheat Board participation payments (included in this estimate since 1944) the 1957 estimate included net cash advances amounting to almost \$25,000,000 made under the Prairie Grain Advance Payments Act.

The effects of the decline in cash returns from the sale of field crops was borne almost entirely by Prairie Province farmers and can be attributed to smaller marketings and lower prices for wheat, oats and barley. With the exception of tobacco, returns from all other field crops were only slightly lower than a year earlier and contributed little to the over-all drop of \$117,000,000 from field crops.

Livestock and Livestock Products.—Cash income from the sale of livestock and livestock products, including poultry, dairy products, eggs and wool, was estimated at \$1,600,000,000 for 1957, up \$51,000,000 from the 1956 estimate. This increase was attributed mainly to larger cattle marketings in Prince Edward Island, Quebec and particularly in the three Prairie Provinces, where two-thirds of the increase originated from the sale of cattle and calves. Income from dairy products increased by \$27,000,000 and from the sale of poultry by \$3,700,000.

7.—Cash Income from the Sale of Farm Products, by Source, 1955-57

(Exclusive of Newfoundland)

NOTE.—Figures for 1926-54 will be found in DBS Reference Paper No. 25, Revised edition, Part II.

Item	1955*	1956*	1957
	\$'000	\$'000	\$'000
Grains, Seeds and Hay	555,086	807,105	684,321
Wheat.....	331,834	481,808	375,509
Wheat participation payments.....	25,717	61,987	79,314
Oats.....	27,801	50,543	37,784
Oats participation payments.....	7,021	8,170	—
Barley.....	69,748	98,865	76,604
Barley participation payments.....	14,438	15,217	—
Canadian Wheat Board net cash advance payments.....	—	—	24,990
Rye.....	6,545	14,376	4,003
Flaxseed.....	41,034	61,933	58,442
Corn.....	20,761	22,003	20,996
Clover and grass seed.....	8,955	10,720	6,203
Hay and clover.....	1,232	1,478	1,076

7.—Cash Income from the Sale of Farm Products, by Source, 1955-57—concluded

Item	1955 [*]	1956 [*]	1957
	\$'000	\$'000	\$'000
Vegetables and Other Field Crops	181,333	178,564	184,507
Potatoes.....	33,979	43,395	37,157
Vegetables.....	58,642	58,643	58,095
Sugar beets.....	12,875	12,397	16,192
Tobacco.....	75,837	64,129	73,063
Livestock and Poultry	883,171	925,412	953,383
Cattle and calves.....	433,032	452,431	482,322
Sheep and lambs.....	10,084	9,776	10,137
Hogs.....	289,563	298,246	292,282
Poultry.....	150,492	164,959	168,642
Dairy Products	438,392	432,536	459,594
Fruits	40,801	37,656	39,939
Other Principal Farm Products	146,222	162,112	157,994
Eggs.....	132,581	148,877	143,200
Wool.....	2,045	2,096	2,267
Honey.....	4,215	4,413	5,526
Maple products.....	7,381	6,726	7,001
Miscellaneous Farm Products	45,030	50,121	49,265
Forest Products	44,485	54,816	46,140
Fur Farming	15,678	15,198	16,118
Totals, Cash Income from Farm Products	2,350,198	2,663,520	2,591,861
Supplementary payments ¹	33,338	5,004	1,987
Totals, Cash Income	2,383,536	2,668,524	2,593,848

¹ Includes payments made under the Prairie Farm Assistance Act; other government subsidies have been included in cash income from individual commodities.

8.—Cash Income from the Sale of Farm Products, by Province, 1955-57

NOTE.—Figures for 1926-54 will be found in DBS Reference Paper No. 25, Revised edition, Part II.

Province	1955 [*]	1956 [*]	1957
	\$'000	\$'000	\$'000
Newfoundland.....	26,054	26,626	24,509
Prince Edward Island.....	40,139	44,423	41,055
Nova Scotia.....	40,639	49,288	44,813
New Brunswick.....	398,855	389,499	387,915
Quebec.....	766,237	790,496	781,477
Ontario.....	175,975	211,415	203,849
Manitoba.....	427,204	597,884	558,857
Saskatchewan.....	369,411	437,846	440,740
Alberta.....	105,686	116,043	117,746
British Columbia.....			
Totals	2,350,198	2,663,520	2,591,861

Net Income of Farm Operators from Farming Operations, 1957.—After moving slowly upward for two years, farm net income dropped back in 1957 to the 1954 level of slightly more than \$1,000,000,000. This decline of 28 p.c. from the 1956 level was the result of lower net income to farmers in all provinces except British Columbia and Ontario where it increased by 4 p.c. Farm net income was about 25 p.c., 4 p.c. and 47 p.c. lower in 1957 than in 1956 for the Maritime Provinces, Quebec and the Prairie Provinces respectively. The increase in Ontario and British Columbia was almost sufficient to offset the

reduction in Quebec and the Maritime Provinces but the major portion of the decline, \$395,000,000 of the total of \$403,000,000, resulted from a smaller grain crop and smaller grain marketings in the Prairie Provinces compared with a year earlier.

In all provinces farm expenses and depreciation charges were lower in 1957 than in 1956, which tended to offset somewhat the effects of lower income.

9.—Net Income of Farm Operators from Farming Operations, 1955-57

(Exclusive of Newfoundland)

NOTE.—Includes estimated value of farm homes and supplementary payments made under the provisions of the Prairie Farm Assistance Act.

Item	1955*	1956*	1957
	\$'000	\$'000	\$'000
1. Cash income from sale of farm products.....	2,350,198	2,663,520	2,591,861
2. Income in kind.....	328,435	329,271	327,435
3. Value of changes in inventory.....	211,853	220,042	—138,667
4. Gross income (Items 1+2+3).....	2,890,486	3,212,833	2,780,629
5. Operating expenses.....	1,349,071	1,475,884	1,443,362
6. Depreciation charges.....	284,789	284,749	285,349
7. Total operating expenses and depreciation (Items 5+6).....	1,633,860	1,760,633	1,728,711
8. Net income excluding supplementary payments (Items 4-7).....	1,256,626	1,452,200	1,051,918
9. Supplementary payments.....	33,338	5,004	1,987
Net Income of Farm Operators from Farming Operations (Items 8+9).....	1,289,964	1,457,204	1,053,905

10.—Net Income of Farm Operators from Farming Operations, by Province, 1955-57

NOTE.—Net income includes estimated rental value of farm homes and supplementary payments made under the provisions of the Prairie Farm Assistance Act.

Province	1955*	1956*	1957
	\$'000	\$'000	\$'000
Newfoundland.....			
Prince Edward Island.....	11,961	12,608	8,822
Nova Scotia.....	15,957	17,245	13,567
New Brunswick.....	17,879	26,686	20,133
Quebec.....	228,482	192,724	185,425
Ontario.....	332,457	310,674	321,957
Manitoba.....	91,950	130,375	77,103
Saskatchewan.....	333,748	441,733	186,973
Alberta.....	209,199	272,096	184,562
British Columbia.....	48,331	53,063	55,363
Totals.....	1,289,964	1,457,204	1,053,905

Subsection 3.—Volume of Agricultural Production

A preliminary estimate places the index of physical volume of agricultural production for 1957 at 130.5 (1935-39 = 100), about 23 p.c. below the all-time high estimate of 169.2 for 1956. As stated previously, the decline in total agricultural production in 1957 from the high level of 1956 was largely attributable to the substantial reduction in output of grains in Western Canada. Somewhat lesser contributions to the decline in total production were smaller outputs of livestock and tobacco. Increased production was recorded for almost all the remaining items considered in the index.

Reduced total agricultural production took place in all provinces except Prince Edward Island and British Columbia. On a percentage basis, the reductions ranged from less than 3 p.c. in Nova Scotia to about 44 p.c. in Saskatchewan. Percentage increases were 11.4 p.c. in Prince Edward Island and just over 13 p.c. in British Columbia.

11.—Index Numbers of Physical Volume of Agricultural Production, by Province, 1948-57

(1935-39=100. Exclusive of Newfoundland)

NOTE.—For a description of this index, methods and coverage, see *DBS Quarterly Bulletin of Agricultural Statistics* for April-June, 1952. Figures for 1935-44 are given in the 1950 Year Book, p. 420, and for 1945-47 in the 1956 edition, p. 423.

Year	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Total
1948.....	133.3	91.8	124.3	121.6	119.0	143.8	131.8	118.5	143.7	125.1
1949.....	158.8	105.1	145.8	126.4	124.9	125.7	128.1	98.1	148.7	122.3
1950.....	148.2	105.2	140.2	136.3	128.1	137.8	168.3	121.9	134.2	137.8
1951.....	119.5	87.7	110.4	139.0	128.6	146.4	218.1	157.1	126.9	154.7
1952.....	142.3	80.6	109.4	124.7	119.6	164.6	267.4	174.8	133.3	166.2
1953.....	142.8	80.6	121.6	132.9	129.5	131.3	237.5	158.6	136.3	157.9
1954.....	150.3	88.7	114.1	129.8	128.6	102.1	108.8	119.4	131.4	119.5
1955.....	150.0	93.3	135.9	143.8	128.6	127.3	210.8	141.2	131.2	150.2
1956.....	140.1	95.4	127.9	139.0	135.2	172.0	252.1	168.8	127.7	169.2
1957.....	156.1	93.1	123.3	133.9	131.3	125.4	140.7	118.2	144.5	130.5

Subsection 4.—Field Crops

Following the excellent growing season in 1956, prairie farmers experienced drought conditions in 1957. Saskatchewan, in particular, and Alberta received only scattered rains through most of the growing period and as a result crop production was well below the average of recent years. The Maritimes also suffered from dry conditions early in the season, although August and September rains improved the situation. In contrast, growing conditions were generally excellent during most of the summer in Quebec and Ontario. Conditions for crop production were excellent also in British Columbia. However, in the Peace River area of British Columbia and Alberta, heavy rains held up the harvest and a large amount of grain which remained in the fields over the winter could not be recovered. Hail losses in 1957 were extensive as many moderate to severe storms swept across the prairies. Of the 21 crops for which estimates were made in 1957, production was greater than the previous year for fall rye, corn for grain, soybeans, potatoes, rapeseed, sunflower seed, fodder corn and sugar beets. New production records were established for soybeans and rapeseed.

Marketings of the five major grains (wheat, oats, barley, rye and flaxseed) totalled 585,445,000 bu. in 1956-57 and 575,570,000 bu. in the 1957-58 crop year. These amounts were well below the record 1952-53 year when marketings reached 844,855,000 bu. but compared favourably with the ten-year (1946-47—1955-56) average of 571,076,000 bu. Combined exports of the same grains (including wheat flour, rye flour, rolled oats and oatmeal, malt, and pot and pearl barley) amounted to 389,045,000 bu. in 1956-57 and 441,170,000 bu. in 1957-58. Exports during the period were well above the ten-year average of 370,970,000 bu. Stocks of grain continued to mount in 1956-57 but, because of the small crop in 1957 and relatively high exports, disappearance during 1957-58 amounted to more than production and, as a result, stocks of grain were drawn down.

The gross value of production of principal field crops on Canadian farms in 1956, based on average prices received by farmers throughout the 1956-57 crop year, was estimated at \$1,870,444,000. On the basis of partial price returns and reflecting reduced crop production, the 1957 value decreased sharply to \$1,342,178,000. These amounts were well below the record-breaking year of 1952 when the total reached \$2,306,397,000 and the 1951 total of \$2,120,301,000. Estimates of the value of the 1957 crops, based on average prices received by farmers during the complete crop year will be published in one of the regularly scheduled DBS crop reports and in the *Quarterly Bulletin of Agricultural Statistics*.

12.—Acreages, Yields and Prices of Principal Field Crops 1953-57, with Five-Year Average 1945-49

(Exclusive of Newfoundland)

NOTE.—Most of the figures in this table have been revised since the publication of the 1957-58 Year Book.

Crop and Year	Area	Yield per Acre	Pro-duction	Aver- age Price	Total Value ¹	Crop and Year	Area	Yield per Acre	Pro-duction	Aver- age Price	Total Value ¹
	'000 acres	bu.	'000 bu.	\$ per bu.	\$'000		'000 acres	bu.	'000 bu.	\$ per bu.	\$'000
Wheat—						Mixed Grains—					
Av. 1945-49..	24,558	14.8	362,774	1.62	587,412	Av. 1945-49..	1,226	35.9	44,046	0.84	36,988
1953.....	26,384	24.0	634,040	1.33	844,503	1953.....	1,550	43.7	67,740	0.85	57,269
1954.....	25,539	13.0	331,981	1.24	411,781	1954.....	1,670	38.1	63,648	0.84	53,215
1955.....	22,660	22.9	519,178	1.87	709,481	1955.....	1,701	39.0	66,266	0.84	55,726
1956.....	22,781	25.2	573,040	1.25	714,019	1956.....	1,560	42.7	66,618	0.84	56,008
1957.....	21,031	17.6	370,508	1.09	402,899	1957.....	1,452	43.6	63,292	0.76	47,910
Oats—						Flaxseed—					
Av. 1945-49..	11,513	28.4	326,437	0.67	219,370	Av. 1945-49..	1,164	8.2	9,502	3.91	37,188
1953.....	9,873	41.9	413,971	0.63	259,616	1953.....	956	10.2	9,748	2.44	23,808
1954.....	10,052	30.5	306,401	0.67	206,537	1954.....	1,178	9.3	10,998	2.54	27,963
1955.....	10,958	36.5	399,451	0.67	265,749	1955.....	1,836	10.3	18,990	2.77	52,669
1956.....	11,707	44.8	524,517	0.57	300,234	1956.....	3,041	11.5	34,991	2.56	89,631
1957.....	11,017	34.5	380,599	0.56	214,145	1957.....	3,486	5.5	19,179	2.54	48,724
Barley—						Potatoes—					
Av. 1945-49..	6,569	21.5	141,171	0.95	133,431	Av. 1945-49..	417	95.3	39,704	1.83	72,522
1953.....	8,908	29.4	262,121	0.86	224,681	1953.....	324	129.0	41,758	1.31	54,910
1954.....	7,842	22.3	175,198	0.89	155,280	1954.....	304	105.8	32,202	2.42	73,021
1955.....	9,887	25.4	251,102	0.87	219,143	1955.....	312	128.2	40,152	1.77	70,992
1956.....	8,390	32.1	269,067	0.79	211,273	1956.....	312	135.4	42,325	1.75	74,274
1957.....	9,403	23.0	215,993	0.71	153,474	1957.....	312	141.2	44,077	1.45	64,029
Rye—						Tim Hay—					
Av. 1945-49..	1,192	11.1	13,182	1.85	24,362	Av. 1945-49..	10,535	1.59	16,729	14.99	250,847
1953.....	1,505	19.2	28,845	0.82	23,609	1953.....	10,564	1.89	20,018	13.75	275,250
1954.....	787	16.3	12,812	0.92	11,734	1954.....	10,737	1.87	20,121	13.98	281,195
1955.....	746	18.6	13,840	0.92	12,775	1955.....	10,842	1.86	20,186	15.05	303,837
1956.....	547	15.4	8,434	1.00	8,421	1956.....	10,922	1.80	19,655	15.40	302,698
1957.....	551	15.5	8,539	0.88	7,538	1957.....	11,452	1.68	19,188	15.23	292,255

¹ Gross value of farm production; does not represent cash income from sales.

13.—Acreages, Production and Values of Principal Field Crops, by Province, 1956 and 1957, with Five-Year Average 1945-49

(Exclusive of Newfoundland)

Field Crop and Province	Area			Total Production			Gross Farm Value		
	Average 1945-49	1956	1957	Average 1945-49	1956	1957	Average 1945-49	1956	1957
	'000 ac.	'000 ac.	'000 ac.	'000 bu.	'000 bu.	'000 bu.	\$'000	\$'000	\$'000
Wheat.....	24,558	22,781	21,031	362,774	573,040	370,508	587,412	714,053	442,570
P.E. Island.....	2	3	3	54	84	78	84	142	126
Nova Scotia.....	1	1	1	23	20	17	34	35	27
New Brunswick....	2	2	2	46	61	68	77	102	112
Quebec.....	12	15	15	206	365	393	313	606	621
Ontario—									
Winter.....	621	625	590	18,100	20,000	19,588	28,358	28,800	25,464
Spring.....	40	17	15	810	357	333	1,287	550	433
Manitoba.....	2,420	2,199	2,114	48,000	56,000	45,000	79,827	72,800	55,350
Saskatchewan.....	14,438	14,569	13,365	185,000	355,000	211,000	301,085	440,200	253,200
Alberta.....	6,915	5,296	4,881	108,000	140,000	93,000	171,983	169,400	106,020
British Columbia...	106	64	45	2,615	1,163	1,031	4,365	1,418	1,217

13.—Acreages, Production and Values of Principal Field Crops, by Province, 1956 and 1957, with Five-Year Average 1945-49—continued

Field Crop and Province	Area			Total Production			Gross Farm Value		
	Average 1945-49	1956	1957	Average 1945-49	1956*	1957	Average 1945-49	1956*	1957
	'000 ac.	'000 ac.	'000 ac.	'000 bu.	'000 bu.	'000 bu.	\$'000	\$'000	\$'000
Oats	11,513	11,707	11,017	326,437	524,507	380,599	219,370	300,234	226,858
P.E. Island.....	110	98	93	4,073	4,508	4,185	3,113	3,426	3,139
Nova Scotia.....	64	43	40	2,221	2,035	1,975	1,891	1,994	1,778
New Brunswick.....	178	130	121	6,136	6,500	5,808	4,799	5,200	4,240
Quebec.....	1,377	1,258	1,258	32,961	46,294	50,320	26,716	40,739	41,262
Ontario.....	1,503	1,427	1,610	56,770	60,648	79,665	42,078	47,305	55,786
Manitoba.....	1,460	2,053	1,800	49,000	92,000	58,000	31,402	47,840	30,160
Saskatchewan.....	4,084	3,670	3,214	96,000	165,000	80,000	60,134	80,850	40,000
Alberta.....	2,645	2,935	2,791	75,000	143,000	96,000	46,148	70,070	48,000
British Columbia.....	93	92	90	4,535	4,532	4,616	3,088	2,810	2,493
Barley	6,569	8,390	9,403	141,171	269,065	215,993	133,431	211,336	165,030
P.E. Island.....	6	1	1	169	32	38	172	34	37
Nova Scotia.....	6	2	1	153	56	49	172	66	52
New Brunswick.....	11	4	4	312	156	156	346	165	169
Quebec.....	84	32	25	1,869	961	911	2,006	1,086	984
Ontario.....	234	105	97	7,477	3,713	3,783	7,148	3,936	3,707
Manitoba.....	1,766	1,543	1,704	42,000	42,000	33,000	40,907	35,280	26,730
Saskatchewan.....	2,354	3,027	3,791	43,000	99,000	80,000	39,813	77,220	60,800
Alberta.....	2,088	3,606	3,714	45,000	121,000	96,000	42,161	91,960	71,040
British Columbia.....	21	66	66	731	2,147	2,056	746	1,589	1,521
Fall Rye	863	368	440	9,882	5,814	7,299	15,272	5,969	6,508
Quebec.....	4	8	8	59	181	208	77	223	250
Ontario.....	86	86	85	1,771	1,885	1,980	2,900	2,201	2,000
Manitoba.....	40	61	66	671	1,000	1,100	1,140	970	968
Saskatchewan.....	531	157	184	4,323	1,950	2,300	8,394	1,833	1,909
Alberta.....	201	55	94	3,029	780	1,660	5,710	710	1,345
British Columbia.....	2	2	2	29	38	51	50	32	36
Spring Rye	329	179	111	3,299	2,620	1,240	6,090	2,452	1,029
Manitoba.....	10	7	7	142	100	100	255	97	88
Saskatchewan.....	192	143	84	1,917	2,050	900	3,522	1,927	747
Alberta.....	127	29	20	1,240	470	240	2,314	428	194
All Rye	1,192	547	551	13,182	8,434	8,539	24,362	8,421	7,537
Quebec.....	4	8	8	59	181	208	77	223	250
Ontario.....	86	86	85	1,771	1,885	1,980	2,900	2,201	2,000
Manitoba.....	50	68	73	813	1,100	1,200	1,395	1,067	1,056
Saskatchewan.....	723	300	268	6,240	4,000	3,200	11,916	3,760	2,656
Alberta.....	328	84	114	4,269	1,250	1,900	8,024	1,138	1,539
British Columbia.....	2	2	2	29	38	51	50	32	36
Peas	83	88	85	1,375	1,817	1,400	3,811	3,618	2,861
Quebec.....	7	3	4	91	56	72	339	224	274
Ontario.....	26	8	7	468	127	143	1,337	318	313
Manitoba.....	21	56	56	366	1,168	840	916	1,752	1,260
Saskatchewan.....	7	3	3	109	72	45	294	162	124
Alberta.....	16	12	8	215	252	166	598	693	448
British Columbia.....	6	7	6	126	142	134	326	469	442
Beans	82	66	62	1,356	1,146	1,094	5,024	4,383	3,735
Quebec.....	2	2	2	30	25	26	124	112	104
Ontario.....	80	64	61	1,326	1,121	1,068	4,900	4,271	3,631
Soybeans	73	243	256	1,492	5,301	6,508	3,492	11,400	12,685
Ontario.....	73	240	252	1,492	5,269	6,476	3,492	11,328	12,628
Manitoba.....	—	3	4	—	32	32	—	72	67
Buckwheat	179	168	107	3,642	3,177	2,292	3,896	3,665	2,351
New Brunswick.....	11	6	4	267	162	148	325	202	163
Quebec.....	56	47	38	1,116	1,209	948	1,279	1,560	1,167
Ontario.....	109	53	30	2,212	1,188	661	2,229	1,378	690
Manitoba.....	3	62	35	48	618	455	62	525	341
Mixed Grains	1,226	1,560	1,452	44,046	66,618	63,292	36,988	56,008	47,693
P.E. Island.....	48	57	52	1,878	2,755	2,444	1,590	2,342	2,126
Nova Scotia.....	4	10	10	139	466	485	135	489	480
New Brunswick.....	3	5	6	97	254	290	79	241	252
Quebec.....	189	194	190	4,921	7,256	7,790	4,852	8,127	7,946
Ontario.....	916	984	840	35,438	44,292	42,420	29,194	37,205	30,967
Manitoba.....	18	67	72	496	2,342	2,000	364	1,499	1,220
Saskatchewan.....	13	49	63	255	1,680	1,379	192	1,092	910
Alberta.....	33	189	215	736	7,333	6,300	512	4,840	3,654
British Columbia.....	2	5	4	86	240	184	70	173	138

**13.—Acreages, Production and Values of Principal Field Crops, by Province, 1956 and 1957,
with Five-Year Average 1945-49—concluded**

Field Crop and Province	Area			Total Production			Gross Farm Value		
	Average 1945-49	1956	1957	Average 1945-49	1956*	1957	Average 1945-49	1956*	1957
	'000 ac.	'000 ac.	'000 ac.	'000 bu.	'000 bu.	'000 bu.	\$'000	\$'000	\$'000
Flaxseed	1,164	3,041	3,486	9,502	34,991	19,179	37,188	89,631	48,549
Ontario.....	39	17	12	463	227	163	1,879	638	414
Manitoba.....	449	789	865	4,267	8,000	3,500	16,732	20,720	8,680
Saskatchewan.....	526	1,710	2,025	3,360	19,500	10,500	12,872	50,115	26,670
Alberta.....	146	511	572	1,373	7,100	4,900	5,555	17,750	12,495
British Columbia...	4	14	12	39	164	116	149	408	290
				'000 lb.	'000 lb.	'000 lb.			
Sunflower Seed	29	33	30	16,312	20,750	12,000	952	807	480
Manitoba.....	29	33	30	16,312	20,750	12,000	952	807	480
Rapeseed	40	352	618	29,663	299,820	433,058	1,746	10,518	13,902
Manitoba.....	—	29	28	—	24,150	17,188	—	869	516
Saskatchewan.....	40	297	520	29,663	252,450	364,000	1,746	8,836	11,830
Alberta.....	—	26	70	—	23,220	51,870	—	813	1,556
				'000 bu.	'000 bu.	'000 bu.			
Shelled Corn	244	509	514	11,038	27,814	29,613	14,056	33,377	34,950
Ontario.....	231	502	503	10,734	27,636	29,325	13,726	33,163	34,604
Manitoba.....	13	7	12	304	178	288	330	214	346
				'000 cwt.	'000 cwt.	'000 cwt.			
Potatoes	417	312	312	39,704	42,325	44,077	72,522	74,274	76,302
P.E. Island.....	46	42	46	5,993	7,012	9,028	7,746	10,378	11,736
Nova Scotia.....	16	10	10	1,767	1,438	1,754	3,436	2,948	3,210
New Brunswick.....	61	46	46	8,730	9,148	9,200	13,241	12,899	11,960
Quebec.....	118	99	98	8,956	10,129	11,552	17,485	21,271	21,602
Ontario.....	92	54	55	8,004	7,565	7,260	16,877	13,238	12,342
Manitoba.....	21	16	15	1,405	1,831	1,055	2,371	2,234	2,986
Saskatchewan.....	24	15	14	1,230	1,215	754	2,570	2,649	2,262
Alberta.....	23	20	17	1,679	2,223	1,400	3,706	3,735	3,878
British Columbia...	16	10	10	1,940	1,764	2,074	5,089	4,922	6,326
				'000 tons	'000 tons	'000 tons			
Field Roots	72	40	33	725	425	355	12,845	9,033	8,243
P.E. Island.....	8	7	6	119	85	80	1,906	1,377	1,440
Nova Scotia.....	6	4	3	72	56	46	1,732	1,534	1,472
New Brunswick.....	7	3	3	66	30	31	1,086	858	930
Quebec.....	14	10	8	114	83	63	2,712	2,357	1,701
Ontario.....	36	16	13	343	171	135	5,409	2,907	2,700
Tame Hay	10,535	10,922	11,452	16,729	19,655	19,188	250,847	302,698	295,177
P.E. Island.....	221	205	210	333	422	273	4,620	5,064	4,368
Nova Scotia.....	403	314	314	699	691	502	11,773	12,438	10,542
New Brunswick.....	534	399	392	748	758	706	11,849	9,854	11,296
Quebec.....	3,959	3,487	3,497	5,526	6,102	5,770	87,681	94,581	95,205
Ontario.....	3,371	3,290	3,350	6,128	6,416	6,600	86,292	97,844	94,050
Manitoba.....	324	634	722	556	1,268	1,275	6,021	12,680	12,750
Saskatchewan.....	481	647	723	681	1,068	800	9,029	14,685	11,200
Alberta.....	940	1,614	1,887	1,370	2,276	2,370	19,053	35,278	36,142
British Columbia...	302	332	357	688	654	892	14,530	20,274	19,624
Fodder Corn	404	394	371	3,509	3,450	3,612	17,951	16,519	17,058
Quebec.....	71	79	68	605	631	652	4,172	4,291	3,912
Ontario.....	308	290	280	2,790	2,653	2,831	12,910	11,010	12,371
Manitoba.....	16	19	18	58	98	90	422	588	540
Saskatchewan.....	5	2	2	14	6	5	137	72	65
British Columbia...	4	4	3	42	62	34	309	558	170
Sugar Beets	66	79	84	690	893	1,054	9,060	15,470	13,948
Quebec.....	3	6	6	27	55	76	344	823	1,070
Ontario.....	22	14	20	219	145	265	2,950	2,205	3,614
Manitoba.....	11	23	21	90	229	219	1,113	3,855	2,743
Alberta.....	30	36	37	354	464	493	4,672	8,587	6,521

* Includes British Columbia.

14.—Acreages and Production of Grain in the Prairie Provinces, 1952-57

NOTE.—Many of the figures in this table have been revised since the publication of the 1957-58 Year Book.

Grain	1952	1953	1954	1955	1956	1957
ACREAGES						
	'000 acres	'000 acres	'000 acres	'000 acres	'000 acres	'000 acres
Wheat.....	25,372	25,517	24,707	21,964	22,064	20,360
Oats.....	7,560	6,490	6,715	7,788	8,658	7,805
Barley.....	8,145	8,599	7,568	9,638	8,181	9,209
Rye.....	1,153	1,421	687	665	452	455
Flaxseed.....	1,027	908	1,148	1,809	3,010	3,462
PRODUCTION						
	'000 bu.	'000 bu.	'000 bu.	'000 bu.	'000 bu.	'000 bu.
Wheat.....	678,000	604,000	305,000	497,000	551,000	349,000
Oats.....	346,000	276,000	196,000	290,000	400,000	234,000
Barley.....	281,000	251,000	167,000	244,000	262,000	209,000
Rye.....	22,320	26,900	10,790	12,300	6,350	6,300
Flaxseed.....	10,700	9,100	10,700	18,700	34,600	18,900

Stocks of Grain in Canada.—Table 15 shows the stocks of Canadian grain on hand in Canada and in the United States on July 31 for the years 1952-57, with averages for the five-year periods 1940-44 and 1945-49. Stocks in Canada are separated into those in commercial positions and those on farms. Stocks on farms and in country elevators in the Prairie Provinces are given separately.

SUPPLY AND DISPOSITION OF PRINCIPAL GRAINS,*

CROP YEAR 1957-58

THOUSAND BUSHELS

	CARRYOVER 1956-57	+	1957-58 PRODUCTION	-	EXPORTS	-	DOMESTIC USE	=	CARRYOVER 1957-58
WHEAT	226,544	+	370,508	-	315,593	-	169,697	=	614,764
OATS	226,225	+	380,599	-	26,184	-	425,680	=	154,951
BARLEY	142,779	+	215,993	-	80,297	-	160,236	=	118,306
RYE AND FLAXSEED	21,741	+	27,710	-	19,096	-	14,723	=	15,633

*IMPORTS OF 84,000 BUSHELS (ALL GRAINS), REPRESENTING LESS THAN 4% OF TOTAL SUPPLY, NOT INCLUDED.

15.—Carryover of Canadian Grain as at July 31, 1952-57, with Five-Year Average 1940-49

NOTE.—Figures for individual years before 1952 will be found in the corresponding table of previous editions of the Year Book. Many of the figures in this table have been revised since the publication of the 1957-58 edition.

As at July 31—	Total in Canada and United States	Total in Canada	In Commercial Storage in Canada	On Farms in Canada	Prairie Provinces	
					On Farms	In Country Elevators
	bu.	bu.	bu.	bu.	bu.	bu.
Wheat—						
Av. 1940-44.....	431,102,442	408,734,141	351,581,341	57,152,800	54,960,000	154,370,863
Av. 1945-49.....	119,587,196	115,603,876	82,718,676	32,885,200	31,265,600	24,698,778
1952.....	217,177,826	214,934,143	195,672,143	19,262,000	18,000,000	98,782,136
1953.....	383,185,486	382,545,625	288,829,625	93,716,000	91,000,000	154,702,768
1954.....	618,675,202	618,567,923	386,707,923	231,860,000	228,000,000	211,475,262
1955.....	536,748,472	536,302,394	375,368,811	137,855,000	134,000,000	221,665,886
1956.....	579,673,811	578,802,924	374,597,924	204,205,000	202,000,000	234,737,799
1957.....	729,545,846	729,334,787	410,174,787	319,160,000	315,000,000	235,035,203
Oats—						
Av. 1940-44.....	74,984,299	74,212,213	16,435,613	57,776,600	43,826,600	6,500,924
Av. 1945-49.....	70,725,656	69,841,382	18,954,582	50,886,800	41,042,800	5,091,295
1952.....	108,358,284	104,861,518	47,025,518	57,836,000	45,000,000	25,455,272
1953.....	144,409,075	143,525,521	52,865,521	90,660,000	78,500,000	38,504,134
1954.....	125,768,957	125,768,957	28,518,957	97,250,000	85,000,000	19,848,364
1955.....	83,967,243	83,967,243	30,567,243	53,400,000	40,000,000	16,516,871
1956.....	119,105,841	118,285,166	47,085,166	71,200,000	60,000,000	24,269,986
1957.....	226,215,327	226,110,796	54,010,796	172,100,000	155,000,000	41,063,069
Barley—						
Av. 1940-44.....	29,922,222	28,868,755	12,191,755	16,677,000	15,453,000	4,138,057
Av. 1945-49.....	29,747,854	29,512,098	12,702,098	16,810,000	16,140,000	3,842,261
1952.....	79,503,741	79,286,664	57,810,664	21,476,000	21,000,000	26,916,163
1953.....	111,666,834	111,260,514	73,025,514	38,235,000	37,000,000	47,738,023
1954.....	145,910,370	145,910,370	49,100,370	96,810,000	95,000,000	31,730,779
1955.....	91,488,186	91,488,186	49,178,186	42,310,000	40,000,000	32,095,796
1956.....	110,947,935	110,947,935	60,482,935	50,465,000	49,000,000	33,152,200
1957.....	142,778,542	142,692,307	61,712,307	80,980,000	79,000,000	37,247,122
Rye—						
Av. 1940-44.....	6,897,205	4,942,647	3,260,247	1,682,400	1,617,800	1,172,857
Av. 1945-49.....	3,273,777	3,123,572	2,023,372	1,100,200	1,053,400	544,436
1952.....	8,774,397	8,197,089	6,171,089	2,026,000	1,980,000	2,232,344
1953.....	17,540,618	16,638,159	12,133,159	4,505,000	4,400,000	3,417,245
1954.....	22,235,477	22,235,477	6,425,477	15,810,000	15,650,000	3,616,842
1955.....	19,934,653	19,844,103	8,214,103	11,630,000	11,450,000	3,148,206
1956.....	15,713,037	15,639,314	6,134,314	9,505,000	9,400,000	3,392,699
1957.....	14,159,691	14,141,691	3,601,691	10,640,000	10,300,000	1,500,352
Flaxseed—						
Av. 1940-44.....	1,923,885	1,923,885	1,667,525	256,360	251,700	373,895
Av. 1945-49.....	3,888,325	3,888,325	3,423,525	464,800	461,400	240,711
1952.....	2,905,918	2,905,918	2,054,918	851,000	815,000	526,003
1953.....	4,301,420	4,301,420	2,468,420	1,833,000	1,800,000	972,940
1954.....	3,489,712	3,489,712	1,547,712	1,942,000	1,900,000	441,688
1955.....	2,587,064	2,587,064	909,064	1,678,000	1,650,000	98,586
1956.....	2,997,471	2,997,471	2,067,471	930,000	930,000	239,523
1957.....	7,580,565	7,580,565	6,060,565	1,520,000	1,500,000	1,644,943

Subsection 5.—Livestock and Poultry

Livestock.—The numbers of livestock on farms in the different provinces for 1957 and 1958 are given in Table 16 and the average value per head of farm livestock is given, by province, in Table 17.

16.—Livestock on Farms, by Province, at June 1, 1957 and 1958

Province and Item	1957	1958	Province and Item	1957	1958
	No.	No.		No.	No.
Newfoundland.....	..	..	Nova Scotia—		
Prince Edward Island—			Horses.....	16,700	15,000
Horses.....	13,800	12,500	Milk cows ¹	79,000	71,300
Milk cows ¹	43,500	42,400	Other cattle.....	98,000	85,700
Other cattle.....	79,500	71,600	Sheep.....	83,000	80,000
Sheep.....	33,000	33,000	Swine.....	31,000	37,000
Swine.....	45,000	51,000			

¹ Cows and heifers, two years old or over, kept for milk purposes.

16.—Livestock on Farms, by Province, at June 1, 1957 and 1958—concluded

Province and Item	1957	1958	Province and Item	1957	1958
No.	No.	No.	No.	No.	No.
New Brunswick—			Saskatchewan—		
Horses.....	18,200	16,500	Horses.....	160,000	148,000
Milk cows ¹	84,000	80,500	Milk cows ¹	261,000	254,000
Other cattle.....	97,000	89,500	Other cattle.....	1,659,000	1,606,000
Sheep.....	66,000	67,000	Sheep.....	154,000	175,000
Swine.....	52,000	59,000	Swine.....	633,000	890,000
Quebec—			Alberta—		
Horses.....	155,000	147,000	Horses.....	140,000	132,000
Milk cows ¹	1,080,000	1,082,000	Milk cows ¹	280,000	275,000
Other cattle.....	960,000	908,000	Other cattle.....	2,320,000	2,225,000
Sheep.....	331,000	320,000	Sheep.....	450,000	470,000
Swine.....	874,000	1,060,000	Swine.....	1,300,000	1,710,000
Ontario—			British Columbia—		
Horses.....	130,000	115,000	Horses.....	25,400	24,000
Milk cows ¹	1,012,000	1,015,000	Milk cows ¹	87,500	91,000
Other cattle.....	1,958,000	1,930,000	Other cattle.....	312,500	309,000
Sheep.....	387,000	383,000	Sheep.....	86,000	90,000
Swine.....	1,565,000	1,850,000	Swine.....	41,000	52,000
Manitoba—			Yukon and N.W.T.—		
Horses.....	71,000	65,000	Totals—		
Milk cows ¹	220,000	218,000	Horses.....	730,100	675,000
Other cattle.....	665,000	647,000	Milk cows ¹	3,147,000	3,129,200
Sheep.....	71,000	78,000	Other cattle.....	8,149,000	7,871,800
Swine.....	316,000	455,000	Sheep.....	1,661,000	1,696,000
			Swine.....	4,857,000	6,164,000

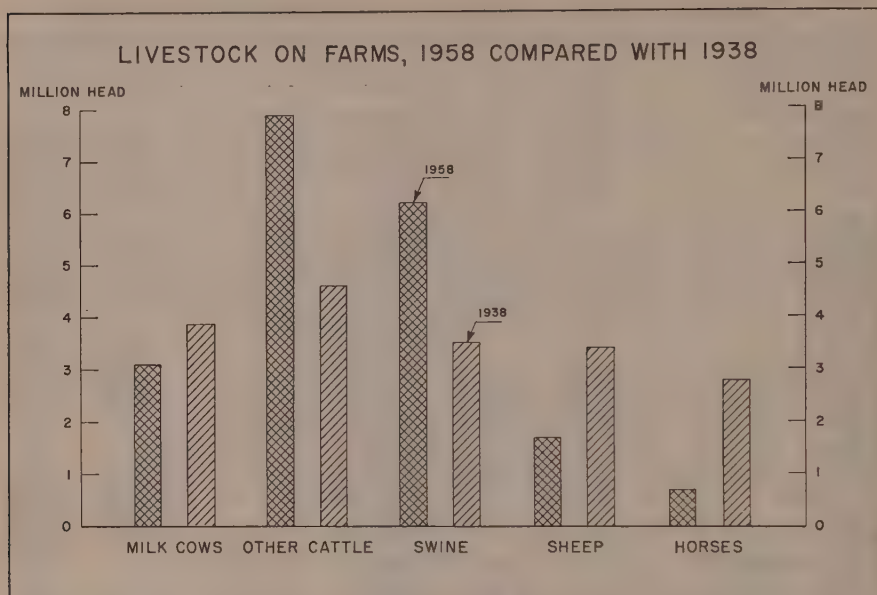
¹ Cows and heifers, two years old or over, kept for milk purposes.

17.—Average Value per Head of Farm Livestock, by Province, 1957 and 1958

(Exclusive of Newfoundland and the Yukon and Northwest Territories)

Province and Item	1957	1958	Province and Item	1957	1958
\$	\$	\$	\$	\$	\$
Prince Edward Island—			Manitoba—		
Horses.....	92	95	Horses.....	85	98
All cattle.....	83	103	All cattle.....	98	130
Milk cows ¹	127	152	Milk cows ¹	137	180
Other cattle.....	59	75	Other cattle.....	85	113
Sheep.....	15	15	Sheep.....	15	16
Swine.....	31	35	Swine.....	29	32
Nova Scotia—			Saskatchewan—		
Horses.....	119	118	Horses.....	74	79
All cattle.....	88	106	All cattle.....	98	128
Milk cows ¹	123	144	Milk cows ¹	139	180
Other cattle.....	60	75	Other cattle.....	91	119
Sheep.....	13	14	Sheep.....	16	18
Swine.....	28	32	Swine.....	27	30
New Brunswick—			Alberta—		
Horses.....	121	134	Horses.....	72	84
All cattle.....	85	106	All cattle.....	101	127
Milk cows ¹	118	146	Milk cows ¹	152	188
Other cattle.....	56	71	Other cattle.....	95	120
Sheep.....	16	16	Sheep.....	17	18
Swine.....	31	34	Swine.....	33	33
Quebec—			British Columbia—		
Horses.....	152	162	Horses.....	82	95
All cattle.....	95	119	All cattle.....	102	134
Milk cows ¹	129	160	Milk cows ¹	146	192
Other cattle.....	56	70	Other cattle.....	90	117
Sheep.....	14	15	Sheep.....	18	21
Swine.....	30	34	Swine.....	29	34
Ontario—			Totals—		
Horses.....	120	130	Horses.....	102	112
All cattle.....	120	153	All cattle.....	163	132
Milk cows ¹	164	214	Milk cows ¹	144	183
Other cattle.....	97	121	Other cattle.....	88	112
Sheep.....	20	21	Sheep.....	17	18
Swine.....	34	40	Swine.....	32	35

¹ Cows and heifers, two years old or over, kept for milk purposes.



The federal Department of Agriculture inspects all livestock in plants designated as inspected establishments under the Meat and Canned Foods Act. A statistical record is kept of these inspections and details are given in Table 18. Local wholesale butchering and slaughtering carried out by retail butchers and by farmers for their own use are not included. Actually the slaughtering and meat packing industry is concentrated in a comparatively small number of large establishments to facilitate greater efficiency and utilization of products; thus the figures of Table 18 are fairly inclusive. The slaughtering and meat packing industry is dealt with in its proper relation to all other manufacturing enterprises in Chapter XIV of this volume. On a gross value basis it normally ranks among the three largest manufacturing industries in Canada but it owes its importance to the value of raw products obtained from the farmer and the rancher rather than to the value added by the manufacturing process.

18.—Livestock Slaughtered at Inspected Establishments 1943-57, and by Month 1957

(Exclusive of Newfoundland)

Year	Cattle	Calves	Sheep	Hogs	Year and Month	Cattle	Calves	Sheep	Hogs
	No.	No.	No.	No.	1957	No.	No.	No.	No.
1943.....	1,021,054	594,087	889,317	7,168,525	January.....	146,803	41,701	32,309	403,488
1944.....	1,354,121	661,245	959,189	8,766,417	February....	138,118	40,618	30,349	424,936
1945.....	1,891,024	787,626	1,185,161	5,681,629	March.....	166,050	73,568	32,949	507,565
1946.....	1,668,441	752,343	1,213,235	4,252,591	April.....	129,501	99,205	19,258	392,221
1947.....	1,291,759	665,311	900,766	4,452,816	May.....	139,260	106,989	14,487	381,898
1948.....	1,489,883	787,410	768,943	4,487,649	June.....	183,131	101,480	28,039	431,384
1949.....	1,439,489	766,277	629,673	4,098,609	July.....	153,054	70,012	36,642	317,777
1950.....	1,284,683	773,205	521,089	4,405,055	August.....	159,321	69,008	55,423	301,680
1951.....	1,149,789	583,718	438,518	4,488,007	September...	215,538	90,497	102,962	456,660
1952.....	1,237,630	567,760	512,966	6,234,145	October.....	170,359	67,299	80,518	393,530
1953.....	1,469,406	740,723	543,371	4,611,312	November...	195,991	66,050	94,793	443,530
1954.....	1,635,008	820,506	562,555	4,679,214	December...	189,125	60,675	54,174	516,858
1955.....	1,702,108	828,658	591,566	5,543,787					
1956.....	1,874,363	891,615	599,974	5,548,289					
1957.....	1,986,251	887,102	581,903	4,971,477	Totals, 1957.	1,986,251	887,102	581,903	4,971,477

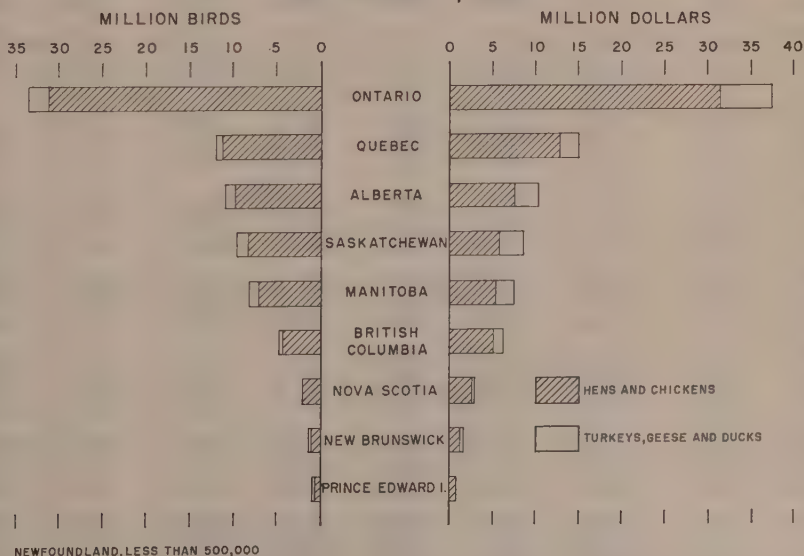
Poultry.—The stocks of poultry on farms and their values are given in Table 19; production and consumption of poultry meat are included in Table 20.

19.—Numbers and Values of Poultry on Farms, by Province, as at June 1, 1957 and 1958

Province and Year	Hens and Chickens		Turkeys		Geese		Ducks		Totals	
	No.	Value	No.	Value	No.	Value	No.	Value	No.	Value
	'000	\$'000	'000	\$'000	'000	\$'000	'000	\$'000	'000	\$'000
Newfoundland ¹ 1956	106	264	2	14	..	1	..	2	109	281
P. E. Island.....1957	770	759	11	25	9	23	6	9	796	816
.....1958	745	759	12	41	9	21	6	9	772	830
Nova Scotia.....1957	1,832	2,466	56	142	2	6	1	2	1,891	2,616
.....1958	1,960	2,555	75	197	2	6	1	2	2,038	2,760
New Brunswick.....1957	1,090	1,350	42	149	4	13	2	3	1,138	1,515
.....1958	1,125	1,352	55	213	4	13	2	3	1,186	1,581
Quebec.....1957	11,300	12,170	610	1,817	10	30	40	64	11,960	14,081
.....1958	11,310	12,804	670	2,054	12	32	46	81	12,038	14,971
Ontario.....1957	27,825	26,403	1,650	3,809	96	222	124	143	29,695	30,577
.....1958	31,165	31,435	1,950	5,518	110	301	130	166	33,355	37,420
Manitoba.....1957	6,350	4,564	780	1,602	34	66	40	37	7,204	6,269
.....1958	6,980	5,433	950	1,939	42	82	44	43	8,016	7,497
Saskatchewan.....1957	8,100	5,490	900	1,871	48	112	67	74	9,115	7,547
.....1958	8,300	5,905	1,145	2,515	50	116	70	77	9,565	8,613
Alberta.....1957	9,750	7,306	860	1,994	80	168	90	96	10,780	9,564
.....1958	9,800	7,558	975	2,341	78	172	90	103	10,943	10,174
British Columbia.....1957	4,220	5,023	333	940	12	37	24	36	4,589	6,036
.....1958	4,345	5,089	325	1,042	11	31	30	43	4,711	6,205
Totals.....1957	71,237	65,531	5,242	12,349	295	677	394	464	77,168	79,021
.....1958	75,730	72,890	6,157	15,860	318	774	419	527	82,624	90,051

¹ Census data; annual estimates are not available.

**NUMBER AND VALUE OF POULTRY ON FARMS, BY PROVINCE,
AS AT JUNE 1, 1958**



20.—Production and Domestic Disappearance of Poultry Meat, 1957

(Dressed weight)

Item	Net Production	Total Supply	Domestic Disappearance	Per Capita Consumption
	'000 lb.	'000 lb.	'000 lb.	lb.
Fowl and chickens.....	415,220	449,062	422,437	25.5
Turkeys.....	107,317	136,109	120,411	7.3
Geese.....	3,585	3,720	3,417	0.2
Ducks.....	3,454	5,457	5,223	0.3
Totals, Poultry.....	529,576	594,348	551,488	33.2

Subsection 6.—Dairying

Milk Production.—Milk production in 1958 amounted to 18,057,136,000 lb. an increase of 751,108,000 lb. over the previous year. The proportion of the total milk production used for factory-made dairy products increased to 58.4 p.c. from 57.2 p.c. in 1957. The proportion sold in fluid form was 30.4 p.c. in 1958 compared with 31.1 p.c. in 1957. Milk used for all purposes on farms (home consumed, manufactured and fed) was 11.2 p.c. in 1958 compared with 11.7 p.c. in 1957.

21.—Production and Utilization of Milk, by Province, 1955-58

Province and Year	Used in Manufacture		Milk Otherwise Used			Total Milk Production
	On Farms	In Factories	Fluid Sales	Farm-Home Consumed	Fed on Farms	
	'000 lb.	'000 lb.	'000 lb.	'000 lb.	'000 lb.	'000 lb.
Newfoundland.....	..	..	..	..	..	..
Prince Edward Island.....1955	5,995	154,983	27,129	23,522	14,053	225,682
1956	4,990	159,281	26,599	24,628	13,593	229,091
1957	4,610	157,385	25,472	23,770	16,991	228,228
1958	3,814	167,712	26,268	23,840	12,943	234,577
Nova Scotia.....1955	17,732	171,590	175,852	46,629	17,099	428,832
1956	16,096	169,211	181,955	45,937	17,391	430,590
1957	16,099	164,569	183,249	46,460	14,542	414,919
1958	15,397	152,403	182,392	47,460	16,600	414,252
New Brunswick.....1955	31,746	226,893	144,989	44,696	21,214	469,538
1956	30,657	222,945	147,918	42,426	16,295	460,241
1957	28,454	213,837	150,565	41,590	19,473	453,919
1958	25,646	221,624	151,827	41,550	20,634	461,281
Quebec.....1955	52,287	3,566,918	1,519,547	277,929	166,760	5,583,441
1956	47,196	3,586,317	1,612,739	283,675	182,855	5,712,782
1957	36,574	3,703,493	1,644,558	290,200	196,650	5,861,465
1958	30,069	3,897,603	1,666,584	283,900	198,770	6,076,926
Ontario.....1955	22,602	3,325,694	1,852,273	225,196	219,491	5,645,256
1956	22,850	3,219,974	1,932,823	234,883	215,642	5,626,172
1957	17,948	3,275,351	2,004,073	226,600	214,100	5,737,972
1958	17,761	3,505,135	2,041,680	227,600	213,800	6,005,976
Manitoba.....1955	39,718	629,689	274,756	103,134	56,461	1,103,758
1956	35,905	589,578	266,197	102,807	54,654	1,079,141
1957	38,423	596,874	300,371	98,980	49,200	1,083,848
1958	36,410	663,544	305,998	100,190	52,770	1,158,912
Saskatchewan.....1955	98,801	661,071	271,915	184,027	62,759	1,278,673
1956	91,643	621,340	291,022	182,505	59,298	1,245,808
1957	78,413	654,908	301,246	179,000	53,700	1,267,267
1958	76,729	727,524	312,470	179,500	59,280	1,355,453
Alberta.....1955	66,493	837,841	302,443	160,121	70,747	1,437,645
1956	66,813	814,562	325,864	161,521	58,612	1,427,372
1957	62,244	869,232	340,194	162,600	58,100	1,482,370
1958	61,846	924,239	348,403	151,400	59,060	1,544,948

21.—Production and Utilization of Milk, by Province, 1955-58—concluded

Province and Year	Used in Manufacture		Milk Otherwise Used			Total Milk Production
	On Farms	In Factories	Fluid Sales	Farm-Home Consumed	Fed on Farms	
	'000 lb.	'000 lb.	'000 lb.	'000 lb.	'000 lb.	'000 lb.
British Columbia.....1955	12,784	310,627	392,870	33,462	23,979	773,722
1956	10,068	266,006	418,882	33,951	26,138	755,045
1957	10,390	271,377	436,843	32,310	25,120	776,040
1958	7,886	282,323	455,862	32,360	26,380	804,811
Totals.....1955	348,158	9,885,236	4,961,774	1,098,716	652,563	16,946,447
1956	326,218	9,649,214	5,233,999	1,112,333	644,478	16,966,242
1957	293,155	9,897,016	5,386,571	1,081,410	647,876	17,306,028
1958	275,558	10,542,107	5,491,484	1,087,800	660,187	18,057,136

22.—Farm Values of Milk Production, by Province, 1955-58

NOTE.—Many of the figures in this table have been revised since the publication of the 1957-58 Year Book.

Province and Year	Value of Milk Used in Manufacture		Value of Milk Otherwise Used			Value of Total Milk Production
	On Farms	In Factories	Fluid Sales	Farm-Home Consumed	Fed on Farms	
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Newfoundland.....	..	..	..	..	..	..
Prince Edward Island.....1955	154	3,314	1,012	586	772	5,838
1956	136	3,438	980	611	764	5,929
1957	120	3,496	968	613	910	6,116
1958	93	3,889	1,018	641	842	6,483
Nova Scotia.....1955	424	3,845	7,787	1,315	1,000	14,371
1956	399	3,721	8,019	1,268	1,006	14,413
1957	392	3,557	8,153	1,319	888	14,307
1958	395	3,625	8,501	1,381	873	14,775
New Brunswick.....1955	814	4,788	6,469	1,211	1,394	14,676
1956	786	4,623	6,558	1,129	1,260	14,356
1957	742	4,718	6,831	1,148	1,317	14,756
1958	701	4,963	6,861	1,172	1,367	15,064
Quebec.....1955	1,296	79,907	61,010	7,254	12,432	161,899
1956	1,170	80,455	63,816	7,319	12,474	165,234
1957	922	86,645	67,130	7,649	13,905	176,251
1958	797	97,018	69,627	8,318	13,702	189,462
Ontario.....1955	580	70,380	77,215	5,405	9,647	163,227
1956	586	71,340	81,232	5,661	9,713	168,532
1957	460	75,930	84,977	5,640	9,248	176,255
1958	478	82,901	88,251	5,918	9,321	186,869
Manitoba.....1955	950	12,616	10,160	2,424	3,539	29,689
1956	859	11,837	11,184	2,406	3,355	29,641
1957	936	12,363	11,322	2,385	3,278	30,284
1958	949	14,568	12,037	2,545	3,631	33,730
Saskatchewan.....1955	2,364	13,631	10,651	4,306	3,545	34,497
1956	2,154	12,831	11,209	4,271	3,345	33,810
1957	1,877	14,001	11,781	4,368	3,505	35,532
1958	1,902	16,549	12,592	4,631	3,939	39,613
Alberta.....1955	1,592	17,949	12,889	3,827	3,948	40,205
1956	1,599	17,332	13,892	3,877	3,826	40,526
1957	1,490	19,500	14,381	3,815	3,984	43,170
1958	1,559	21,928	15,111	3,967	4,230	46,795

22.—Farm Values of Milk Production, by Province, 1955-58—concluded

Province and Year	Value of Milk Used in Manufacture		Value of Milk Otherwise Used			Value of Total Milk Production
	On Farms	In Factories	Fluid Sales	Farm-Home Consumed	Fed on Farms	
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
British Columbia.....1955	317	8,848	20,260	944	802	31,171
.....1956	249	7,924	21,504	920	783	31,380
.....1957	258	9,530	23,974	895	782	35,439
.....1958	199	10,275	24,740	919	829	36,962
Totals.....1955	8,491	215,278	207,453	27,272	37,079	495,573
.....1956	7,938	213,501	218,394	27,462	36,526	503,821
.....1957	7,197	229,740	229,517	27,832	37,824	532,110
.....1958	7,073	255,716	238,738	29,492	38,734	569,753

Butter, Cheese and Other Dairy Products.—Butter production in 1958 amounted to 349,995,000 lb., 31,848,000 lb. more than in 1957. Of the total, 336,085,000 lb. was creamery butter, 11,776,000 lb. dairy or farm-made butter and 2,134,000 lb. whey butter.

Factory cheese production in 1958 was estimated at 100,895,000 lb., a decrease of 7.5 p.c. from the 1957 estimate and 51.4 p.c. below the peak production of 207,431,000 lb. in 1942. Exports of cheese, mostly cheddar, amounted to 15,701,000 lb. in 1958 and 8,456,000 lb. in 1957 as compared with 135,409,000 lb. in 1945.

The over-all production of concentrated milk products increased to its highest level in 1958 and the production of ice cream was about 1,398,000 gal. higher than in 1957.

23.—Production of Butter and Cheese, by Province, 1955-58

Province and Year	Butter				Cheese
	Creamery	Dairy	Whey	Total	Factory ¹
	'000 lb.	'000 lb.	'000 lb.	'000 lb.	'000 lb.
Newfoundland.....	..	..	..	..	..
Prince Edward Island.....1955	5,836	256	—	6,092	683
.....1956	5,643	213	12	5,868	852
.....1957	5,662	197	18	5,877	839
.....1958	6,053	163	14	6,230	812
Nova Scotia.....1955	5,841	758	—	6,599	—
.....1956	5,653	688	—	6,341	—
.....1957	5,026	688	—	5,714	—
.....1958	4,856	668	—	5,514	—
New Brunswick.....1955	8,713	1,357	—	10,070	757
.....1956	8,503	1,310	—	9,813	833
.....1957	8,048	1,216	—	9,264	960
.....1958	8,452	1,096	—	9,548	803
Quebec.....1955	124,700	2,234	160	127,094	17,832
.....1956	122,337	2,017	208	124,562	25,085
.....1957	122,136	1,563	340	124,039	31,141
.....1958	133,542	1,285	262	135,089	27,280
Ontario.....1955	84,207	966	1,634	86,807	64,133
.....1956	79,634	976	1,892	82,502	63,131
.....1957	77,422	767	1,885	80,074	72,104
.....1958	89,488	759	1,854	92,101	68,548

For footnote, see end of table.

23.—Production of Butter and Cheese, by Province, 1955-58—concluded

Province and Year	Butter				Cheese
	Creamery	Dairy	Whey	Total	Factory ¹
	'000 lb.	'000 lb.	'000 lb.	'000 lb.	'000 lb.
Manitoba.....1955	25,018	1,897	18	26,733	1,043
.....1956	23,360	1,534	1	24,895	1,089
.....1957	23,552	1,642	—	25,194	1,263
.....1958	26,601	1,556	—	28,157	693
Saskatchewan.....1955	26,836	4,222	—	31,058	93
.....1956	25,099	3,916	—	29,015	30
.....1957	26,482	3,351	—	29,833	52
.....1958	29,509	3,279	—	32,788	46
Alberta.....1955	31,326	2,842	5	34,173	2,151
.....1956	30,233	2,855	4	33,092	1,933
.....1957	32,161	2,660	5	34,826	1,822
.....1958	34,326	2,643	4	36,973	1,635
British Columbia.....1955	6,100	546	—	6,646	693
.....1956	2,852	430	—	3,282	562
.....1957	2,882	444	—	3,326	691
.....1958	3,258	337	—	3,595	789
Totals.....1955	318,577	14,878	1,817	335,272	87,554
.....1956	303,314	13,939	2,117	319,370	93,715
.....1957	303,371	12,528	2,245	318,147	109,119
.....1958	336,085	11,776	2,134	349,995	100,895

¹ Factory-made cheese includes cheddar and other cheese made from whole milk and cream. Amounts for "other cheese" are included in Quebec and Ontario figures but, as fewer than three firms reported in the other provinces data cannot be included except in the Canada total.

24.—Production of Concentrated Milk Products 1955-58

(Exclusive of Newfoundland)

NOTE.—The figures in this table have been revised since the publication of the 1957-58 Year Book.

Product	1955	1956	1957	1958
	'000 lb.	'000 lb.	'000 lb.	'000 lb.
Concentrated Whole Milk Products.....	348,467	365,934	389,107	366,793
Condensed milk.....	13,237	17,172	14,730	14,194
Evaporated milk.....	294,938	305,152	316,824	310,176
Whole milk powder.....	20,861	20,544	23,088	19,713
Partly skimmed evaporated milk.....	16,073	20,312	21,888	21,119
Other whole milk products ¹	3,358	2,754	3,577	1,591
Concentrated Milk By-products.....	126,132	119,723	159,951	225,579
Condensed skim milk.....	4,295	4,233	3,476	3,444
Evaporated skim milk.....	9,090	8,776	9,184	10,028
Skim milk powder.....	87,115	79,005	120,710	186,768
Powdered buttermilk.....	6,599	7,691	8,100	8,028
Whey powder.....	9,345	10,986	13,037	12,823
Casein.....	6,351	7,828	4,896	3,430
Other milk by-products ²	3,337	1,203	548	1,058
Totals.....	474,599	485,656	549,058	592,372

¹ Includes malted milk, cream powder, sub-standard whole milk powder and sterilized cream manufactured by fewer than three firms. ² Includes sugar of milk (lactose) and condensed buttermilk manufactured by fewer than three firms.

25.—Production of Ice Cream, by Province, 1955-58

Province	1955	1956*	1957	1958	Province	1955	1956*	1957	1958
	'000 gal.	'000 gal.	'000 gal.	'000 gal.		'000 gal.	'000 gal.	'000 gal.	'000 gal.
Newfoundland.....	..	..	..	..	Manitoba.....	1,784	1,665	1,690	1,752
P. E. Island.....	179	174	179	195	Saskatchewan.....	1,876	1,963	2,012	2,120
Nova Scotia.....	1,363	1,385	1,454	1,460	Alberta.....	2,716	2,928	3,033	3,266
New Brunswick....	862	869	878	879	British Columbia...	3,317	3,804	3,877	4,236
Quebec.....	7,822	8,190	8,705	8,972					
Ontario.....	12,491	12,255	13,289	13,635	Totals.....	32,410	33,233	35,117	36,515

Domestic Disappearance of Dairy Products.—The estimated consumption of fluid milk and cream, on a milk basis, amounted to 5,100,215,000 pt. in 1958, 86,282,000 pt. higher than the 1957 consumption. The daily average consumption per capita was 0.84 pt. The estimated consumption of milk and cream is given by province in Table 26 and the domestic disappearance of all dairy products in Table 27.

26.—Estimated Consumption of Milk and Cream (expressed as Milk), by Province, 1955-58

NOTE.—The figures in this table have been revised since the publication of the 1957-58 Year Book.

Province and Year	Estimated Con- sumption	Daily per Capita Con- sumption	Province and Year	Estimated Con- sumption	Daily per Capita Con- sumption
	'000 pt.	pt.		'000 pt.	pt.
Newfoundland.....	..	..	Manitoba.....1955	292,938	0.96
Prince Edward Island....1955	39,264	1.08	1956	309,305	0.99
1956	39,710	1.10	1957	309,574	0.99
1957	38,173	1.06	1958	314,875	0.99
1958	38,844	1.06	Saskatchewan.....1955	353,443	1.10
Nova Scotia.....1955	172,465	0.69	1956	367,076	1.14
1956	176,660	0.69	1957	372,284	1.16
1957	178,068	0.69	1958	381,371	1.18
1958	178,180	0.69	Alberta.....1955	358,577	0.90
New Brunswick.....1955	147,043	0.74	1956	377,818	0.92
1956	147,553	0.73	1957	382,010	0.90
1957	148,957	0.72	1958	387,444	0.88
1958	149,904	0.71	British Columbia.....1955	330,490	0.67
Quebec.....1955	1,393,392	0.85	1956	351,034	0.69
1956	1,470,088	0.87	1957	363,684	0.67
1957	1,492,059	0.86	1958	378,466	0.67
1958	1,512,001	0.85	Totals.....1955	4,698,054	0.84
Ontario.....1955	1,610,442	0.84	1956	4,919,637	0.86
1956	1,680,393	0.85	1957	5,013,933	0.85
1957	1,729,124	0.84	1958	5,100,215	0.84
1958	1,759,130	0.83			

27.—Domestic Disappearance of Dairy Products 1955-58

NOTE.—The figures in this table have been revised since the publication of the 1957-58 Year Book.

Product	1955		1956		1957		1958	
	Total	Per Capita ¹	Total	Per Capita ¹	Total	Per Capita ¹	Total	Per Capita ¹
	'000 lb.	lb.	'000 lb.	lb.	'000 lb.	lb.	'000 lb.	lb.
Milk and Cream....	6,060,490	396.32	6,346,332	405.10	6,467,981	400.17	6,579,284	396.10
Milk.....	5,118,293	334.71	5,376,319	343.18	5,488,211	339.55	5,578,457	335.85
Cream as milk....	942,197	61.61	970,013	61.92	979,770	60.62	1,000,827	60.25
Cream as product..	198,300	12.97	200,204	12.78	202,225	12.51	201,795	12.15
Butter.....	318,228	20.27	329,741	20.51	336,356	20.28	326,206	19.13
Creamery.....	301,645	19.21	313,606	19.50	321,554	19.38	312,299	18.32
Dairy.....	14,878	0.95	13,939	0.87	12,528	0.76	11,776	0.69
Whey.....	1,705	0.11	2,196	0.14	2,274	0.14	2,131	0.12
Cheese.....	104,029	6.63	103,002	6.40	111,802	6.74	115,047	6.75
Cheddar.....	45,334	2.89	41,318	2.57	47,452	2.86	45,717	2.68
Process.....	44,643	2.84	44,271	2.75	44,879	2.71	48,568	2.85
Other.....	14,047	0.89	17,413	1.08	19,471	1.17	20,762	1.22
Concentrated Whole Milk Products²....	322,015	20.51	343,497	21.36	345,744	20.84	348,289	20.43
Evaporated.....	288,382	18.37	299,715	18.64	302,342	18.23	307,121	18.02
Condensed.....	11,926	0.76	14,982	0.93	13,952	0.84	14,562	0.85
Powdered.....	2,970	0.19	5,024	0.31	4,577	0.28	3,320	0.19
Concentrated Milk By-products³.....	115,820	7.38	118,962	7.40	128,035	7.72	152,165	8.93
Evaporated.....	9,089	0.58	8,775	0.55	9,185	0.55	9,960	0.58
Condensed.....	4,330	0.28	4,217	0.26	3,511	0.21	3,432	0.20
Powdered.....	80,474	5.13	81,736	5.08	90,064	5.43	110,867	6.50
All Dairy Products in Terms of Milk—								
Butter.....	7,406,638	471.82	7,664,553	476.62	7,817,519	471.25	7,583,355	444.82
Cheese.....	983,924	63.00	993,124	61.76	1,088,413	65.61	1,120,831	65.75
Concentrated.....	752,004	47.90	803,706	49.98	805,409	48.55	799,035	46.87
Grand Totals⁴.....	15,757,989	1,014.07	16,371,792	1,028.54	16,776,311	1,021.57	16,703,260	989.95

¹ Includes Newfoundland for all manufactured dairy products.² Includes, in addition to the items listed, malted milk, cream powder, partly skimmed evaporated milk, sub-standard whole milk powder and sterilized cream.³ Includes milk by-products items not listed, i.e., condensed buttermilk, powdered buttermilk, sugar of milk, casein and powdered whey. Since the quantities used for human consumption and livestock feeding cannot be separated, per capita figures include both.⁴ Includes ice cream in terms of milk.

Subsection 7.—Fruits and Vegetables

Fruits.—Commercial fruit growing in Canada is confined almost exclusively to rather limited areas in the Provinces of Nova Scotia, New Brunswick, Quebec, Ontario and British Columbia. Nova Scotia production is centred mainly in the Annapolis Valley and New Brunswick production in the St. John River Valley and Westmorland County. The fruit growing districts of Quebec are the Montreal area, the North Shore area, the Eastern Townships and the Quebec City district. Ontario fruit is grown in all the counties adjacent to the St. Lawrence River and the Great Lakes as far west as Georgian Bay, the Niagara district being the most productive. In British Columbia the four well defined fruit areas are the Okanagan Valley, the Fraser Valley, the Kootenay and Arrow Lakes district and Vancouver Island. The climate elsewhere in Canada is not generally suitable for commercial tree-fruit culture. In most producing areas, particularly in the Annapolis Valley of Nova Scotia, the Niagara Peninsula of Ontario and the Okanagan Valley of British Columbia, fruit growing is either the principal or one of the most important forms of agriculture and is of paramount importance to the economy of those areas. Apples and small fruits are produced commercially in the provinces named but tender tree fruits and commercial vineyards are largely limited to Ontario and British Columbia.

Strawberries are grown commercially in all provinces for which tree-fruit statistics are prepared as well as in Prince Edward Island. However, this crop is produced over a somewhat wider area than are tree fruits. In Nova Scotia, for example, considerable

quantities of strawberries are grown in Colchester County and farther north as well as in the apple producing areas of the Annapolis Valley. In British Columbia most of the strawberries are grown in the Fraser Valley rather than in the predominantly tree-fruit producing area of the Okanagan Valley.

Raspberries are grown commercially in Nova Scotia, New Brunswick and Quebec but the bulk of the crop is produced in Ontario and British Columbia. The Fraser Valley of British Columbia is the most important producing area.

Wild blueberries are harvested on a commercial scale in Newfoundland, Prince Edward Island, Nova Scotia, New Brunswick and Quebec. This crop is indigenous to certain lands in these areas. Individuals who harvest the wild berries may undertake to burn the land from time to time for weed control and to effect pruning. Dusting is often carried out to control insects, and bees are sometimes introduced to secure better pollination. A large percentage of the crop is frozen and exported. Some blueberries are picked for sale in other provinces but no statistics of this trade are available. There is also some production of cultivated blueberries, particularly in British Columbia.

A marketing system has been developed for distributing fresh fruit from the specialized production areas to all parts of the country and a large proportion of the deciduous fruit consumed in Canada is grown domestically. Considerable quantities of apples, strawberries and blueberries are exported annually, with the United States as the most important export market for Canadian fruit.

Canning and processing industries have developed in the fruit growing districts and, although the importance of the processing market varies with different fruits, it provides a valuable outlet for substantial proportions of most Canadian-grown fruit crops. Some canned fruits are exported.

28.—Estimated Commercial Production and Farm Value of Fruit, 1955-57

Kind of Fruit and Year	Quantity	Weight	Farm Value	Average Farm Price per Unit of Quantity ¹	Kind of Fruit and Year	Quantity	Weight	Farm Value	Average Farm Price per Unit of Quantity ¹
	'000 bu.	'000 lb.	\$'000	\$		'000 bu.	'000 lb.	\$'000	\$
Apples—					Cherries (sour)—				
1955.....	19,142	861,390	10,870	0.57	1955.....	542	27,100	2,208	4.07
1956.....	12,424	559,080	16,048	1.29	1956.....	292	14,600	1,253	4.29
1957.....	15,906	715,770	14,881	0.94	1957.....	366	18,300	1,867	5.10
Pears—					Strawberries—	'000 qt.			
1955.....	1,510	75,500	2,579	1.71	1955.....	22,674	30,223	5,910	0.26
1956.....	1,400	70,000	2,853	2.04	1956.....	19,112	24,300	4,240	0.22
1957.....	1,094	54,700	2,161	1.98	1957.....	16,459	21,814	3,698	0.22
Plums and Prunes—					Raspberries—				
1955.....	815	40,750	1,068	1.31	1955.....	12,099	17,411	2,775	0.23
1956.....	534	26,700	896	1.68	1956.....	6,656	9,193	2,407	0.36
1957.....	566	28,300	925	1.63	1957.....	12,311	17,701	3,008	0.24
Peaches—					Loganberries—	'000 lb.			
1955.....	2,883	144,150	6,125	2.12	1955.....	1,237	1,237	178	0.14
1956.....	1,667	83,350	4,384	2.63	1956.....	279	279	53	0.19
1957.....	2,801	140,050	6,116	2.18	1957.....	1,059	1,059	162	0.15
Apricots—					Grapes—				
1955.....	184	9,200	316	1.72	1955.....	94,752	94,752	3,622	0.04
1956.....	84	4,200	194	2.31	1956.....	80,274	80,274	3,293	0.04
1957.....	281	14,050	450	1.60	1957.....	69,319	69,319	2,832	0.04
Cherries (sweet)—					Blueberries—				
1955.....	221	11,050	1,295	5.86	1955.....	25,062	25,062	2,688	0.11
1956.....	96	4,800	823	8.57	1956.....	14,958	14,958	2,290	0.15
1957.....	239	11,950	1,717	7.18	1957.....	13,756	13,756	1,887	0.14

¹ Price to growers (to pickers in the case of blueberries) for unpacked fruit.

29.—Quantity and Value of Commercial Fruit Produced, by Province, 1955-57

Province	Quantity			Value ¹		
	1955	1956	1957	1955	1956	1957
	'000 lb.	'000 lb.	'000 lb.	\$'000	\$'000	\$'000
Newfoundland.....	481	597	991	38	48	99
Prince Edward Island.....	1,506	2,092	1,506	188	344	239
Nova Scotia.....	153,231	107,528	138,279	1,856	2,467	2,734
New Brunswick.....	24,368	18,037	24,481	849	1,177	1,127
Quebec.....	249,267	140,026	121,100	5,442	6,023	4,995
Ontario.....	511,105	367,110	390,742	18,935	18,116	18,187
British Columbia.....	397,867	256,344	429,670	12,326	10,559	12,323
Totals.....	1,337,825	891,734	1,106,769	39,634	38,734	39,704

¹ Farm value (to pickers in the case of blueberries) for unpacked fruit.

Vegetables.—Estimates of acreage and production of commercial vegetables in Canada are prepared for all provinces except Newfoundland, Prince Edward Island and Saskatchewan. The Province of Ontario is the largest producer followed by Quebec and British Columbia. A wide variety of crops is grown in these three provinces while a somewhat smaller range of crops is produced in the Maritimes and in the Prairie Provinces.

Canning, freezing and processing of vegetables are carried on in the important producing areas. The estimates in the following tables cover output of commercial growers only and do not include any acreages or production of vegetables grown for home use on farms or elsewhere. Except as otherwise noted in footnotes, all statistics pertain to crops grown for the fresh market and for processing.

30.—Estimated Commercial Acreage of Vegetables, by Province, 1955-57

Province	1955	1956	1957
	acres	acres	acres
Nova Scotia ¹	4,230	3,720	4,660
New Brunswick ¹	890	950	940
Quebec.....	53,870	52,440	53,180
Ontario.....	110,760	106,160	114,760
Manitoba.....	5,640	5,620	1,990
Alberta.....	8,710	10,890	12,000
British Columbia.....	14,380	17,830	16,850
Totals.....	198,480	197,610	204,380

¹ Acreages of peas in Prince Edward Island and New Brunswick are included with Nova Scotia.

31.—Estimated Commercial Acreage and Production of Vegetables 1955-57, with Average for 1950-54

Vegetable	Av. 1950-54		1955		1956 ¹		1957	
	Area	Production	Area	Production	Area	Production	Area	Production
	acres	'000 lb.	acres	'000 lb.	acres	'000 lb.	acres	'000 lb.
Asparagus.....	2,840	5,967	3,680	7,228	3,770	7,585	3,800	7,467
Beans ²	8,600	42,390	9,580	34,810	9,170	38,860	11,150	48,619
Beets.....	3,140	51,520	3,570	48,442	3,770	53,870	3,890	55,474
Cabbage.....	6,610	115,590	6,570	97,757	6,930	121,193	6,480	108,833
Carrots.....	7,820	145,053	8,560	152,578	8,720	164,120	10,200	172,336
Cauliflower.....	2,490	26,983	2,420	24,157	2,570	24,528	2,110	23,077
Celery.....	2,290	52,239	2,450	55,785	2,430	45,189	2,290	44,120
Corn ³	44,020	216,925	44,620	252,820	44,400	216,422	47,080	300,236
Lettuce.....	4,940	64,130	5,010	54,535	4,840	47,050	4,730	44,941
Onions.....	6,700	126,197	6,040	117,904	5,890	99,608	5,710	111,018
Peas ³	41,620	88,923	59,160	116,985	54,280	101,848	54,980	146,287
Spinach.....	1,420	13,677	1,230	13,347	1,100	12,913	1,110	11,064
Tomatoes.....	45,440	648,744	45,590	698,385	49,740	607,658	50,850	599,560

¹ Estimates apply only to that portion of the crop grown for processing in Quebec, Ontario, Manitoba and Alberta in 1955, 1956 and 1957. ² Estimates apply only to that portion of the crop grown for processing in Quebec and Manitoba in 1955 and 1956 and Quebec, Manitoba and Alberta in 1957. ³ Estimates apply only to that portion of the crop grown for processing in all provinces for which estimates are made except British Columbia in 1955, 1956 and 1957.

Subsection 8.—Other Principal Farm Products

Tobacco.—The chief tobacco-growing area of Canada is located in southern Ontario in the counties adjacent to Lake Erie. Most of the cigarette tobacco comes from this district. In Ontario in 1957, 120,652 acres of flue-cured or Bright Virginia type tobacco and 6,000 acres of Burley tobacco were harvested. These are the most important types grown in Canada though dark air-cured and fire-cured tobacco as well as cigar tobacco are grown on a limited scale. The only other important production comes from Quebec. In 1957, 5,661 acres of flue-cured tobacco, 3,300 acres of cigar tobacco and 825 acres of pipe tobacco were harvested in that province.

A study of Department of National Revenue reports on tax-paid withdrawals of tobacco products reveals changes in the smoking habits of Canadians during the past three decades. In 1922, the first year for which comparable figures are available, Canadian per capita consumption of cigarettes was 229, cigars 20, cut tobacco 1.3 lb., plug tobacco 1.1 lb. and snuff about 1.3 oz. By 1957 the annual per capita consumption of cigarettes had increased to 1,817, cigars had dropped to 17.6, cut tobacco went up to 1.6 lb. in 1954 but declined to 1.2 in 1957, and plug tobacco had declined considerably.

32.—Acreage, Production and Value of the Commercial Crop of Leaf Tobacco, by Province, 1954-57 with Average for 1949-53

Year	Quebec			Ontario			British Columbia		
	Har-vested Area	Pro-duction	Value	Har-vested Area	Pro-duction	Value	Har-vested Area	Pro-duction	Value
	acres	'000 lb.	\$	acres	'000 lb.	\$	acres	'000 lb.	\$
Av. 1949-53.	9,010	8,885	2,655,000	95,404	129,558	55,174,800	103	120	45,000
1954.....	10,863	11,110	3,579,000	120,804	173,569	74,174,000	88	84	35,000
1955.....	12,987	13,766	4,117,000	96,833	120,981	53,531,000	89	93	37,000
1956 ¹	11,291	10,252	3,018,000	116,356	151,589	69,001,000	75	99	40,000
1957.....	9,786	8,333	2,854,000	126,961	156,488	75,716,000	40	44	19,000

33.—Acreage, Production and Value of the Commercial Crop of Leaf Tobacco, by Main Type, 1954-57 with Average for 1949-53

Type of Tobacco and Year	Harvested Area	Average Yield per Acre	Total Production	Average Farm Price per lb.	Gross Farm Value
	acres	lb.	lb.	cts.	\$
Flue-cured.....Av. 1949-53	95,190	1,330	126,648,000	43.2	54,735,000
1954.....	122,815	1,410	173,159,000	43.1	74,777,000
1955.....	98,311	1,202	118,206,000	45.3	53,535,000
1956.....	117,614	1,285 ^r	148,743,000	46.1	68,578,000 ^r
1957.....	126,353	1,201	151,743,000	49.2	74,699,000
Burley.....Av. 1949-53	4,204	1,369	5,756,000	30.3	1,745,000
1954.....	3,122	1,431	4,470,000	30.2	1,353,000
1955.....	4,033	1,737	7,005,000	30.1	2,109,000
1956.....	4,496	1,563	7,028,000	31.4	2,210,000
1957.....	6,000	1,353	8,116,000	32.7	2,658,000
Cigar leaf.....Av. 1949-53	2,990	1,209	3,616,000	22.9	827,000
1954.....	3,781	1,280	4,840,000	23.2	1,125,000
1955.....	4,570	1,279	5,846,000	20.5	1,199,000
1956.....	3,235	1,174 ^r	3,797,000 ^r	19.9	756,000 ^r
1957.....	3,300	1,181	3,897,000	24.0	935,000
Totals¹.....Av. 1949-53	104,512	1,326	138,564,000	41.8	57,874,000
1954.....	131,755	1,402	184,763,000	42.1	77,738,000
1955.....	109,909	1,237	134,840,000	42.8	57,635,000
1956.....	127,722	1,274 ^r	161,940,000 ^r	44.5 ^r	72,059,000 ^r
1957.....	136,787	1,205	164,865,000	47.7	78,589,000

¹ Includes other types not specified.

Sugar Beets and Beetroot Sugar.—Sugar beets are grown commercially in Quebec, Ontario, Manitoba and Alberta and beet sugar factories are located in these provinces. In Quebec, commercial production centres in the St. Hilaire area of the Eastern Townships, where operations started in 1944. The sugar beet industry of Ontario is largely confined to the southwestern section of the province and factories are located at Wallaceburg and Chatham.

Processing of sugar beets in Manitoba began in 1940. In Alberta, where the industry has shown steady growth, sugar beets are produced under irrigation with yields averaging above those received in the other provinces.

34.—Acreage, Yield and Value of Sugar Beets and Quantity and Value of Refined Beetroot Sugar Produced 1954-57, with Average for 1949-53

Year	Sugar Beets					Refined Beetroot Sugar		
	Harvested Area	Yield per Acre	Total Yield	Average Price per Ton	Total Value	Quantity	Value	Price per lb.
	acres	tons	tons	\$	\$	lb.	\$	cts.
Av. 1949-53.....	90,687 ^r	10.73	972,659 ^r	14.81	14,409,000 ^r	263,302,843	25,701,756	9.76
1954.....	90,453	11.10	1,003,869	12.06	12,108,000 ^r	232,074,736	20,170,474	8.69
1955.....	81,908	11.98	981,014	13.42	13,170,000	274,516,924	23,348,325	8.51
1956.....	78,786 ^r	11.33 ^r	892,872 ^r	17.33 ^r	15,470,000 ^r	246,621,644	21,505,407	8.72
1957.....	83,744	12.58	1,053,588	13.62 ^p	14,345,000 ^p	261,683,900	26,341,596	10.06

Eggs.—The net production of eggs in 1957 was 446,476,000 doz. which was 42,165,000 doz. more than in the previous year. Total supply of eggs also showed a considerable increase, from 414,669,000 doz. in 1956 to 455,703,000 doz. in 1957. Domestic disappearance, which includes hatchery eggs, amounted to 432,905,000 doz. as compared with 403,110,000 doz. in the same comparison. Per capita consumption for the year 1957 was 25.4 doz.

35.—Production, Utilization and Value of Farm Eggs, by Province, 1957

Province	Average Number of Layers ¹	Average Production per 100 Layers	Net Eggs Laid ²	Sold ³	Used by Producers ³	Value per Dozen ⁴	Total Value Sold and Used
	'000	No.	'000 doz.	'000 doz.	'000 doz.	cts.	\$'000
Newfoundland.....	..	..	..	..	..	..	..
Prince Edward Island.....	405	16,666	5,643	4,865	778	31.6	1,781
Nova Scotia.....	1,131	20,264	18,956	17,393	1,563	43.7	8,285
New Brunswick.....	534	17,724	7,871	6,393	1,478	45.8	3,606
Quebec.....	4,298	18,003	63,850	54,890	8,960	40.1	25,577
Ontario.....	11,786	19,102	185,685	173,748	11,937	37.1	68,870
Manitoba.....	2,468	17,729	36,359	32,187	4,172	30.3	11,024
Saskatchewan.....	3,078	16,740	42,617	32,839	9,778	28.5	12,162
Alberta.....	3,613	16,775	49,863	41,557	8,306	30.3	15,092
British Columbia.....	2,271	19,028	35,632	33,106	2,526	37.3	13,306
Totals.....	29,584	18,300	446,476	396,978	49,498	35.8	159,703

¹ Hens and pullets over six months old.

² Total laid less loss.

³ Includes eggs used for hatching.

⁴ Average value at farms for all purposes.

Wool.—Canada's wool requirements are met largely by imports which amounted to 47,331,000 lb. (greasy basis) in 1957 and 57,239,000 lb. in 1956. Exports amounted to 3,917,000 lb. in 1957 and 3,594,000 lb. in 1956. The apparent domestic consumption of wool shown in Table 36 is determined on the basis of production, exports and imports but does not take into consideration changes in stocks for which the data are not available. Differences in wool utilization between years are therefore probably less marked than indicated by these figures.

36.—Production and Apparent Consumption of Wool, 1952-57

Item	1952 ¹	1953 ¹	1954 ¹	1955 ¹	1956 ¹	1957
Shorn Wool—						
Yield per fleece..... lb.	7.6	7.4	7.4	7.3	7.3	7.2
Total yield shorn..... '000 lb.	6,272	6,166	6,272	6,253	6,165	6,050
Price per pound..... cts.	37.6	38.6	37.8	35.3	37.8	41.4
Total value of shorn wool..... \$'000	2,356	2,377	2,367	2,208	2,328	2,507
Total pulled wool..... '000 lb.	1,313	1,862	1,555	1,595	1,707	1,825
Total wool production..... "	7,585	8,028	7,823	7,848	7,872	7,875
Apparent consumption..... "	53,483	66,390	45,686	58,355	61,517	51,289

¹ Census figures.

Honey.—Honey is produced commercially in all provinces of Canada except Newfoundland, Ontario being the largest producer. There is a considerable movement of honey from the Prairie Provinces to other parts of Canada. In recent years exports have been small, imports being higher than exports.

Honey statistics have been compiled on an all-Canada basis since 1924 and show that the largest recorded crop was in 1948 when 45,145,000 lb. were produced. Production in 1957 was 32,051,000 lb.

In order to facilitate storage, shipment and uniformity of quality, considerable quantities of Canadian honey are pasteurized. Beekeepers' marketing co-operatives are active in several provinces. Bees are kept in some of the fruit growing and greenhouse districts of the country chiefly for purposes of pollination.

37.—Beekeepers and Bee Colonies, Production and Value of Honey and Beeswax 1955-57, with Average for 1950-54

Year	Bee-keepers	Bee Colonies	Honey				Beeswax		Value of Honey and Wax
			Average Production per Hive	Total Production	Average Price per lb. to Producers	Total Value	Production	Value	
	No.	No.	lb.	lb.	cts.	\$	lb.	\$	\$
Av. 1950-54	17,170	380,500	77	29,345,000	16	4,585,000	430,000	195,000	4,780,000
1955.....	14,150	323,600	77	25,031,000	18	4,399,000	367,000	178,000	4,577,000
1956.....	14,410	330,000	74	24,272,000	18	4,419,000	355,000	180,000	4,599,000
1957.....	15,040	325,700	98	32,051,000	18	5,795,000	473,000	253,000	6,048,000

38.—Honey Production, by Province, 1955-57 with Average for 1950-54

Province	Av. 1950-54	1955	1956	1957
	'000 lb.	'000 lb.	'000 lb.	'000 lb.
Newfoundland.....	..	..	..	..
Prince Edward Island.....	69	66	92	55
Nova Scotia.....	122	134	161	170
New Brunswick.....	118	86	101	90
Quebec.....	3,866	3,717	2,941	3,728
Ontario.....	11,952	7,119	6,372	11,111
Manitoba.....	4,729	5,057	5,000	5,208
Saskatchewan.....	3,211	3,271	3,348	3,819
Alberta.....	4,149	4,611	4,724	6,459
British Columbia.....	1,129	970	1,533	1,411
Totals.....	29,345	25,031	24,272	32,051

Maple Sugar and Syrup.—Maple syrup is produced in the Provinces of Nova Scotia, New Brunswick, Quebec and Ontario. The bulk of the crop comes from the Eastern Townships of Quebec, a district famous both in Canada and the United States as the centre of the maple products industry. Virtually all of the maple products exported are sent to the United States with the larger proportion moving as sugar, although substantial quantities of syrup are also shipped.

Much of the syrup sold in Canada is marketed in one-gallon cans direct to the consumer from the producer but a considerable amount of both sugar and syrup is sold each year to processing firms.

**39.—Estimated Production of Maple Sugar and Maple Syrup, by Province, 1955-57
with Average for 1950-54**

Province and Year	Maple Sugar			Maple Syrup			Total Value, Sugar and Syrup
	Quantity	Average Price per lb.	Value	Quantity	Average Price per gal.	Value	
	lb.	cts.	\$	gal.	\$	\$	\$
Nova Scotia—							
Av. 1950-54 ¹	12,000	53.0	6,000	5,000	4.04	19,000	26,000
1955.....	12,000	57.0	7,000	5,000	4.70	24,000	31,000
1956.....	8,000	65.0	5,000	3,000	5.57	17,000	22,000
1957.....	16,000	61.0	10,000	6,000	5.65	34,000	44,000
New Brunswick—							
Av. 1950-54 ¹	72,000	48.0	34,000	10,000	4.35	45,000	79,000
1955.....	88,000	52.0	46,000	11,000	4.72	52,000	98,000
1956.....	37,000	58.0	21,000	10,000	5.06	51,000	72,000
1957.....	96,000	60.0	58,000	19,000	4.99	95,000	153,000
Quebec—							
Av. 1950-54 ¹	1,518,000	40.1	608,000	2,103,000	3.69	7,764,000	8,373,000
1955.....	735,000	52.0	382,000	1,913,000	4.91	9,393,000	9,775,000
1956.....	535,000	43.0	230,000	2,355,000	3.57	8,336,000	8,566,000
1957.....	536,000	44.0	236,000	2,705,000	3.08	8,328,000	8,564,000
Ontario—							
Av. 1950-54 ¹	25,000	46.0	12,000	346,000	4.20	1,453,000	1,464,000
1955.....	12,000	52.0	6,000	217,000	4.48	972,000	978,000
1956.....	6,000	65.0	4,000	270,000	4.71	1,272,000	1,276,000
1957.....	13,000	52.0	7,000	338,000	4.65	1,574,000	1,581,000
Totals—							
Av. 1950-54 ¹	1,627,000	40.6	660,000	2,464,000	3.77	9,282,000	9,942,000
1955.....	847,000	52.1	441,000	2,146,000	4.87	10,441,000	10,882,000
1956.....	556,000	44.4	260,000	2,618,000	3.70	9,676,000	9,936,000
1957.....	661,000	47.0	311,000	3,068,000	3.37	10,031,000	10,342,000

¹ Five-year average prices are derived from actual figures but quantities and values are rounded to the nearest thousand.

Nursery Stock.—Statistics concerning the nursery industry in Canada for the eighteen-month period ended Dec. 31, 1957, are presented in Tables 40 and 41. All nurseries were asked to report quantities sold of stock propagated or imported during this period. Stock purchased from other nurseries in Canada was excluded to prevent duplication. A total of 269 nurseries reported shipments in 1957 as compared with 127 the previous season. Provincial distribution was as follows: Ontario 152, British Columbia 47, Quebec 27, Manitoba 15, the Maritime Provinces 13, Alberta 10 and Saskatchewan 5.

40.—Nursery Stock Shipments, by Type, 1955-56 and 1956-57

Classification	1955-56 ¹			1956-57 ²		
	Domestic Shipments	Imported Shipments	Total	Domestic Shipments	Imported Shipments	Total
	No.	No.	No.	No.	No.	No.
Fruit Trees, Shrubs, Plants—						
Apple species.....	263,786	—	263,786	309,953	250	310,203
Tender tree-fruit species.....	188,885	11,760	200,645	300,817	21,250	322,067
Small fruit species.....	3,113,033	14,566	3,127,599	4,613,054	3,762	4,616,806
Other species.....	491,857	—	491,857	544,127	—	544,127

For footnotes, see end of table.

40.—Nursery Stock Shipments, by Type, 1955-56 and 1956-57—concluded

Classification	1955-56 ¹			1956-57 ²		
	Domestic Shipments	Imported Shipments	Total	Domestic Shipments	Imported Shipments	Total
	No.	No.	No.	No.	No.	No.
Ornamental Species—						
Rose bushes.....	338,185	238,796	576,981	595,000	508,895	1,103,895
Other ornamental shrubs.....	2,077,170	413,232	2,490,402	3,761,850	737,238	4,499,088
Deciduous trees.....	377,351	15,115	392,466	424,103	25,384	449,487
Evergreen trees.....	545,952	180,352	726,304	1,362,406	499,706	1,862,112
Ornamental climbers.....	36,127	14,701	50,828	46,948	24,366	71,314
Bulbs and tubers.....	588,003	830,425	1,418,428	5,061,270	2,792,969	7,854,239
Herbaceous perennials.....	629,049	12,740	641,789	890,595	16,337	906,932

¹ July 1, 1955, to June 30, 1956.
on a calendar-year basis.

² July 1, 1956, to Dec. 31, 1957; commencing Jan. 1, 1957, data are presented

41.—Acreage of Nursery Stock, by Province, 1955-56 and 1956-57

Province	1955-56 ¹		1956-57 ²	
	Fruit Species	Ornamental Species	Fruit Species	Ornamental Species
	acres	acres	acres	acres
Quebec ³	23.3	163.0	32.3	176.2
Ontario.....	515.2	1,222.3	577.0	1,772.6
Prairie Provinces.....	129.5	328.5	52.8	440.2
British Columbia.....	36.1	63.6	16.2	118.0
Totals.....	704.1	1,777.4	678.3	2,507.0

¹ July 1, 1955 to June 30, 1956.
on a calendar-year basis.

² July 1, 1956 to Dec. 31, 1957; commencing Jan. 1, 1957, data are presented

³ Includes Maritime Provinces for which insufficient information was reported.

Subsection 9.—Prices of Agricultural Produce

The monthly index of farm prices of agricultural products was designed to measure changes occurring in the average prices farmers receive at the farm from the sale of farm products. In comparing current index numbers with those before August 1957, certain points should be considered. Western grain prices used in the construction of the index before Aug. 1, 1957, are final prices for all grains. Since Aug. 1, 1957, only initial prices are available for western wheat, oats and barley. Any subsequent participation payments made on the 1957 crops will be added to the prices currently used and the index revised upward accordingly.

42.—Average Index Numbers of Farm Prices of Agricultural Products, by Province, 1950-57 and Monthly Indexes for 1956 and 1957

(1935-39=100)

NOTE.—A description of this index, its coverage and the methods used will be found in *DBS Quarterly Bulletin of Agricultural Statistics* for October-December 1946.

Year	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Total
1950 Averages.....	189.6	206.5	216.8	260.9	265.1	274.4	251.5	276.2	244.3	260.8
1951 Averages.....	236.4	243.2	250.8	305.6	315.0	301.6	268.7	305.0	287.1	296.8
1952 Averages.....	351.6	275.1	344.5	290.2	296.2	266.8	245.9	265.3	291.4	274.4
1953 Averages.....	191.5	234.8	213.2	272.1	263.8	245.3	228.7	247.8	265.7	250.4
1954 Averages.....	196.1	230.2	211.8	261.3	252.8	237.5	208.7	232.4	249.6	236.8
1955 Averages.....	220.6	220.0	226.0	261.7	249.2	225.6	203.5	223.2	248.5	232.7

42.—Average Index Numbers of Farm Prices of Agricultural Products, by Province, 1950-57 and Monthly Indexes for 1956 and 1957—concluded

Year and Month	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Total
1956										
January.....	167.4	185.0	198.1	252.3	238.7	225.9	211.5	217.0	244.5	226.9
February.....	169.7	189.6	197.0	253.5	237.7	227.6	210.7	218.9	244.0	227.2
March.....	182.9	193.1	209.1	249.4	238.7	227.2	210.9	221.3	242.3	227.8
April.....	229.9	198.2	229.1	250.1	240.0	227.0	211.0	220.7	244.9	229.3
May.....	319.1	215.2	269.1	255.0	242.2	229.7	211.7	224.1	246.6	233.7
June.....	311.2	222.0	289.9	264.4	255.6	232.4	215.5	230.2	251.8	241.8
July.....	423.5	227.0	313.0	271.3	262.6	235.3	216.7	232.6	265.9	248.1
August.....	278.5	209.9	259.9	261.0	258.2	230.3	211.3	228.9	254.3	239.7
September.....	190.4	213.1	208.2	259.1	257.9	229.0	208.9	228.7	270.8	237.5
October.....	188.4	217.9	201.4	260.3	260.3	221.6	201.2	225.4	277.8	235.8
November.....	203.6	216.8	222.5	262.5	258.5	218.2	195.7	220.0	270.0	233.2
December.....	214.0	218.7	224.1	266.1	256.0	219.2	197.2	220.1	269.4	233.5
1956 Averages.....	239.9	208.7	235.1	258.8	250.5	227.0	208.5	221.0	256.9	231.5
1957										
January.....	230.8	222.4	245.1	267.4	257.2	221.7	197.9	232.6	271.8	235.6
February.....	204.7	219.3	223.5	268.8	258.9	222.0	199.0	224.4	270.8	236.0
March.....	207.4	218.8	221.1	264.6	253.3	221.6	198.3	220.8	268.7	232.9
April.....	204.2	218.4	224.4	261.8	253.5	220.7	198.5	221.7	263.1	232.6
May.....	204.4	218.4	228.5	261.0	252.7	221.7	199.4	222.2	260.0	232.6
June.....	192.7	217.2	208.6	265.4	253.7	224.3	201.9	227.1	261.0	234.5
July.....	182.0	213.4	214.0	270.1	263.7	223.4	201.7	228.4	260.7	235.1
August.....	209.7	211.7	222.4	269.9	260.7	214.0	186.0	214.8	263.7	231.1
September.....	189.4	205.6	212.7	266.4	257.7	211.7	188.4	212.3	266.1	229.1
October.....	180.6	205.8	207.8	260.9	249.9	206.0	185.8	206.0	261.7	223.7
November.....	178.4	204.2	210.8	258.8	249.2	204.0	182.7	199.2	258.7	220.8
December.....	179.8	205.0	212.5	264.8	254.4	209.4	186.9	204.2	259.5	225.5
1957 Averages.....	197.0	213.4	219.4	265.0	255.4	216.9	193.9	217.0	263.8	231.0

Monthly prices of grain and monthly prices of livestock are shown in DBS *Quarterly Bulletin of Agricultural Statistics*.

43.—Average Cash Prices per Bushel of Canadian Cereals (Basis, in Store at Fort William and Port Arthur, Ont.), Crop Years Ended July 31, 1948-57

NOTE.—Statistics for 1926-47 are given in the corresponding table of previous Year Books.

Year Ended July 31—	Averages in Cents and Eighths per Bushel				
	Wheat, ¹ No. 1 N.	Oats, ² No. 2 C.W.	Barley, ² No. 2 C.W. —6 Row	Rye, ³ No. 2 C.W.	Flaxseed, ³ No. 1 C.W.
	cts.	cts.	cts.	cts.	cts.
1948.....	183/3	90	119/7 ⁴	374/5	550 ⁵
1949.....	183/3	78/1	124/3	140	403/1 ⁸
1950.....	183/3	90/4	158/7	146	371/6
1951.....	185/6	95/4	147/4	184/5	441/4
1952.....	183/5	90/6	132/5	193/5	428/1
1953.....	181/7	79/7	133/5	158/2	329
1954.....	156/3	72/7	108/1	99/1	283/6
1955.....	165/1	89/5	123/4	112/2	309/1
1956.....	160/7	82/7	116/5	110/1	360/1
1957.....	158/5	79/4	114/2	119/7	298/4

¹ Initial payments plus additional payments to producers.

² Based on cash closing prices, Winnipeg Grain Exchange.

³ Average cash closing price, Winnipeg Grain Exchange, except where otherwise noted.

⁴ Equalization payments to producers included.

⁵ \$5 fixed price to growers plus 50 cents participation payment.

⁶ Winnipeg Grain Exchange renewed trading in flaxseed cash and futures on Aug. 16, 1948. The Canadian Wheat Board was authorized to buy all flaxseed offered to it during the 1948-49 crop year on the basis of \$4 per bushel for No. 1 C.W. in store Fort William-Port Arthur, Ont.

44.—Yearly Average Prices per 100 lb. of Canadian Livestock at Principal Markets 1954-57

Item	Toronto				Montreal			
	1954	1955	1956	1957	1954	1955	1956	1957
	\$	\$	\$	\$	\$	\$	\$	\$
Steers, up to 1,000 lb., good.....	19.25	19.60	18.80	19.05	20.10	20.20	18.95	18.55
Steers, up to 1,000 lb., medium.....	17.87	17.56	17.35	17.27	17.67	17.61	17.20	17.04
Steers, up to 1,000 lb., common.....	14.67	13.46	14.09	14.10	14.26	14.25	13.89	13.99
Steers, over 1,000 lb., good.....	19.34	19.60	19.07	18.82	20.12	20.23	19.56	18.41
Steers, over 1,000 lb., medium.....	17.99	17.53	17.37	17.05	18.13	18.04	17.61	17.29
Steers, over 1,000 lb., common.....	15.08	13.61	14.00	13.90	15.14	14.86	14.30	14.82
Heifers, good.....	17.17	17.67	16.88	17.10	16.17	17.10	16.29	16.11
Heifers, medium.....	16.11	15.88	15.67	15.20	13.87	14.37	13.88	14.26
Calves, fed, good.....	19.77	20.13	19.89	19.76	19.81	20.04	19.26	19.22
Calves, fed, medium.....	18.42	18.15	17.84	17.81	17.05	16.99	16.23	15.79
Cows, good.....	12.01	12.60	11.90	12.65	12.12	12.90	12.40	13.40
Cows, medium.....	11.10	11.79	11.12	11.62	10.52	11.27	11.01	11.63
Bulls, good.....	13.10	13.37	13.31	14.19	13.05	13.22	13.42	14.38
Stocker and feeder steers, good.....	18.30	18.75	18.20	18.50	18.00	17.36	¹	¹
Stocker and feeder steers, common.....	15.79	16.30	16.02	16.15	16.50	¹	16.00	¹
Stock cows and heifers, good.....	¹	¹	¹	¹	¹	¹	¹	¹
Stock cows and heifers, common.....	¹	¹	¹	¹	¹	¹	¹	¹
Calves, veal, good and choice.....	23.78	23.80	24.40	25.15	21.23	20.70	21.40	21.40
Calves, veal, common and medium.....	18.10	17.83	17.88	18.43	17.28	17.18	16.97	16.19
Hogs, Grade B-1, dressed.....	30.90	25.05	26.50	30.05	31.05	25.30	25.60	30.35
Lambs, good.....	21.60	20.40	22.05	22.45	20.38	19.15	19.55	19.46
Lambs, common.....	17.35	16.93	17.50	17.35	14.94	15.71	15.63	15.26
Sheep, good.....	9.03	8.37	8.62	8.49	9.43	9.75	8.48	9.10

Item	Winnipeg				Edmonton			
	1954	1955	1956	1957	1954	1955	1956	1957
	\$	\$	\$	\$	\$	\$	\$	\$
Steers, up to 1,000 lb., good.....	17.45	18.45	17.80	17.85	17.70	17.85	17.00	16.95
Steers, up to 1,000 lb., medium.....	15.12	16.25	15.82	15.74	15.91	16.35	15.54	15.40
Steers, up to 1,000 lb., common.....	11.85	12.57	12.73	12.39	12.44	12.34	11.80	12.22
Steers, over 1,000 lb., good.....	17.35	18.45	18.02	17.72	17.45	17.84	16.85	16.91
Steers, over 1,000 lb., medium.....	15.01	15.98	16.29	15.55	15.85	16.33	15.63	15.18
Steers, over 1,000 lb., common.....	11.85	12.48	13.54	12.42	13.15	14.02	13.33	12.95
Heifers, good.....	14.21	15.32	15.64	16.55	15.02	15.42	14.91	15.12
Heifers, medium.....	11.87	13.55	13.47	13.89	13.45	13.76	12.86	13.28
Calves, fed, good.....	17.52	18.18	17.87	17.54	16.83	17.34	16.58	16.51
Calves, fed, medium.....	15.29	16.21	16.43	16.00	15.60	16.25	15.22	15.32
Cows, good.....	10.64	11.85	10.95	11.90	10.27	11.05	10.05	11.00
Cows, medium.....	9.25	10.02	9.69	10.61	9.11	9.85	9.15	10.08
Bulls, good.....	11.33	11.73	11.01	12.66	11.23	11.40	10.67	12.63
Stocker and feeder steers, good.....	15.15	16.05	16.20	17.00	14.95	15.53	15.10	16.12
Stocker and feeder steers, common.....	10.50	12.39	12.81	14.19	11.70	12.33	12.51	13.47
Stock cows and heifers, good.....	11.60	12.23	11.54	12.17	10.85	11.19	10.86	12.06
Stock cows and heifers, common.....	8.06	9.18	9.35	10.11	7.88	8.43	8.13	9.60
Calves, veal, good and choice.....	21.85	23.30	23.20	23.65	19.90	20.75	18.90	19.60
Calves, veal, common and medium.....	14.65	16.47	16.02	16.98	13.23	13.52	13.31	14.90
Hogs, Grade B-1, dressed.....	27.85	22.05	23.40	28.20	28.05	22.20	23.40	27.55
Lambs, good.....	18.45	17.60	18.25	18.60	18.95	17.70	18.25	18.76
Lambs, common.....	13.75	14.17	13.74	15.06	15.67	16.00	15.81	16.49
Sheep, good.....	4.63	4.66	4.65	4.78	9.43	8.28	8.07	9.00

¹ No sales reported.

Subsection 10.—Food Consumption

Food consumption figures represent available supplies, including production and imports, adjusted for change of stocks, exports, marketing losses and industrial uses. All calculations are made at the retail stage of distribution, except for meats, for which the figures are worked out at the wholesale stage. The amount of food actually eaten would be somewhat lower than indicated because of losses and waste occurring after the products

reach the hands of the consumer. It should also be pointed out that there are minor inaccuracies in certain of the figures since statistics of storage stocks in the hands of retailers and consumers are not available.

All basic foods are classified under 13 main commodity groups. The total for each group is computed using a common denominator for the group, for example: milk solids (dry weight) in the dairy products group; fat content for fats and oils; and fresh equivalent for fruits. All foods are included in their basic form, that is, as flour, fat, sugar, etc., rather than in more highly manufactured forms.

The series in Table 45 represents the official estimates of yearly supplies of food moving into consumption, expressed in pounds per capita, for the years 1935-39 as an average for comparison with the years 1955, 1956 and 1957.

45.—Per Capita Supplies of Food Moving into Consumption 1955-57, with Average for 1935-39

Kind of Food and Weight Base	Pounds per Capita per Annum				Percentages of 1935-39 Average		
	Average 1935-39	1955	1956	1957	1955	1956	1957
Cereals.....Retail wt.	205.7	161.0	163.4	155.6	78.3	79.4	75.6
Flour (including rye flour) ¹"	184.8	144.3	145.1	138.8	78.1	78.5	75.1
Oatmeal and rolled oats....."	7.3	4.8	5.4	5.2	65.8	74.0	71.2
Pot and pearl barley....."	0.3	0.2	0.2	0.2	66.7	66.7	66.7
Corn meal and flour....."	1.4	0.7	0.8	0.8	50.0	57.1	57.1
Buckwheat flour....."	0.2	0.1	0.1	0.1	50.0	50.0	50.0
Rice....."	4.3	4.5	5.1	4.3	104.7	118.6	100.0
Breakfast food....."	7.4	6.4	6.7	6.2	86.5	90.5	83.8
Potatoes.....Retail wt.	192.9	149.1	153.9	161.7	77.3	79.8	83.8
Potatoes, white....."	192.3	148.5	153.3	161.1	77.2	79.7	83.8
Potatoes, sweet....."	0.6	0.6	0.6	0.6	100.0	100.0	100.0
Sugars and Syrups.....Sugar content	101.7	109.9	107.1	101.5	108.1	105.3	99.8
Sugar.....Refined wt.	94.7	99.0	99.3	93.6	104.5	104.9	98.8
Maple sugar.....Retail wt.	1.8	0.8	0.9	0.6	44.4	50.0	33.3
Other....."	8.2	15.7	10.9	11.1	191.5	132.9	135.4
Starch.....Retail wt.	2.5	1.6	1.6	1.6	64.0	64.0	64.0
Pulses and Nuts.....Retail wt.	14.5	10.5	11.4	10.7	72.4	78.6	73.8
Dry beans....."	3.7	4.0 ²	3.9	3.3 ²	108.1	105.4	89.2
Dry peas....."	5.7	0.9	1.8	1.8	15.8	31.6	31.6
Peanuts.....Shelled wt.	2.2	3.1	3.2	3.0	140.9	145.5	136.4
Tree nuts....."	1.1	1.1	1.2	1.3	100.0	109.1	118.2
Cocoa.....Green beans	3.7	3.0	2.8	2.8	81.1	75.7	75.7
Fruit.....Fresh equiv.	138.7	226.7	229.4	221.1	163.4	165.4	159.4
Tomatoes and Citrus Fruit—							
Tomatoes, fresh.....Retail wt.	15.4	19.0	18.3	16.3	123.4	118.8	105.8
Tomato products.....Net wt. canned	10.0	16.3	17.7	17.0	163.0	177.0	170.0
Citrus fruit, fresh.....Retail wt.	25.1	36.9	36.1	35.5	147.0	143.8	141.4
Citrus fruit, canned.....Net wt. canned	0.5	13.6	14.6	15.9	2,720.0	2,920.0	3,180.0
Other Fruit—							
Fresh.....Retail wt.	40.5	70.7	70.0	65.9	174.6	172.8	162.7
Canned.....Net wt. canned	6.3	14.9	16.2	14.2	236.5	257.1	225.4
Dried.....Processed wt.	8.3	7.1	5.5	5.3	85.5	66.3	63.9
Juice.....Net wt. canned	...	4.5	5.3	4.6	...	...	...
Frozen.....Retail wt.	0.2	1.2	1.6	1.5	600.0	800.0	750.0

For footnotes, see end of table.

**45.—Per Capita Supplies of Food Moving into Consumption 1955-57, with
Average for 1935-39—concluded**

Kind of Food and Weight Base	Pounds per Capita per Annum				Percentages of 1935-39 Average		
	Average 1935-39	1955	1956	1957	1955	1956	1957
Vegetables.....Fresh equiv.	78.4	94.5	96.7	96.3	120.5	123.3	122.8
Fresh—							
Cabbage and greens.....Retail wt.	16.2	18.6	19.1	18.6	114.8	117.9	114.8
Carrots....."	15.4	11.6	11.8	11.6	75.3	76.6	75.3
Legumes....."	6.2	3.4	3.0	4.2	54.8	45.4	67.7
Other....."	29.8	36.9	36.7	37.5	123.8	123.2	125.8
Canned.....Net wt. canned	10.8	19.3	20.0	19.4	178.7	185.2	179.6
Frozen.....Retail wt.	...	1.7	2.1	2.0	...	...	...
Oils and Fats.....Fat content	41.4	42.7	42.8	42.4	103.1	103.4	102.4
Margarine.....Retail wt.	...	8.1	7.7	7.8	...	...	...
Lard....."	3.9	7.4	7.4	7.4	189.7	189.7	189.7
Shortening....."	10.6	9.7	9.7	9.2	91.5	91.5	86.8
Salad and cooking oil....."	1.8	2.4	2.7	2.9	133.3	150.0	161.1
Butter....."	31.0	20.3	20.5	20.3	65.5	68.1	65.5
Eggs.....Fresh equiv.	30.7	36.0¹	36.4¹	38.1¹	117.3	118.6	124.1
Meat.....Carcass wt.	118.1	138.8	142.9	142.5	117.5	121.0	120.7
Pork....."	39.8	49.2	49.5	46.2	123.6	124.4	116.1
Beef....."	54.7	69.1	72.0	74.8	126.3	131.6	136.7
Veal....."	10.5	8.4	8.6	9.0	80.0	81.9	85.7
Mutton and lamb....."	5.6	2.6	2.6	2.7	46.4	46.4	48.2
Offal.....Edible wt.	5.8	5.3	5.3	5.2	91.4	91.4	89.7
Canned meat.....Net wt. canned	1.4	4.5	5.3	5.2	321.4	378.6	371.4
Poultry and Fish.....Edible wt.	22.4	30.7	31.4	32.6	137.1	140.2	145.5
Hens and chickens.....Retail wt. dressed	15.6	23.5 ²	23.6 ²	25.5 ²	150.6	151.3	163.5
Other poultry....."	2.8	6.2 ²	7.8 ²	7.8 ²	221.4	257.1	278.6
Fish and shellfish, fresh and frozen.....Edible wt.	4	7.3	7.2	7.2	4	4	4
Fish, cured (smoked, salted, pickled)...."	4	1.8	1.7	1.7	4	4	4
Fish and shellfish, canned.....Net wt. canned	2.7	4.5	4.5	4.5	166.7	166.7	166.7
Milk and Cheese.....Milk solids	52.0	62.9	64.2	64.0	121.0	123.5	123.1
Cheddar cheese ³ Retail wt.	3.7	5.7	5.3	5.4	154.1	143.2	145.9
Other cheese....."	0.2	0.9	1.1	1.2	450.0	550.0	600.0
Cottage cheese....."	0.2	0.9	1.1	1.1	450.0	550.0	550.0
Evaporated whole milk....."	6.1	18.4	18.6	18.3	301.6	304.9	300.0
Condensed whole milk....."	0.6	0.8	0.9	0.8	133.3	150.0	133.3
Whole milk powder....."	0.1	0.2	0.3	0.3	200.0	300.0	300.0
Condensed skim milk....."	0.4	0.3	0.3	0.2	75.0	75.0	50.0
Skim milk powder....."	1.8	5.1	5.1	5.4	283.3	283.3	300.0
Evaporated skim milk....."	0.1	0.6	0.6	0.5	600.0	600.0	500.0
Condensed buttermilk....."	0.1	0.1	0.1	—	100.0	100.0	—
Milk in ice cream....."	10.9	35.0	35.1	36.0	321.1	322.0	330.3
Powdered buttermilk....."	0.2	0.4	0.5	0.5	200.0	250.0	250.0
Fluid whole milk ⁴"	408.5	386.6 ²	395.1 ²	390.5 ²	94.6	96.7	95.6
Beverages.....Primary distribution wt.	7.2	10.1	10.9	11.2	140.3	151.4	155.6
Tea....."	3.5	2.7	2.8	2.8	77.1	80.0	80.0
Coffee.....Green beans	3.7	7.4	8.1	8.4	200.0	218.9	227.0

¹ Fluctuations in apparent per capita flour consumption are partly caused by lack of complete data on flour inventories in all positions. ² Includes soybean flour. ³ Exclusive of Newfoundland. ⁴ Break-down according to current classification not available. ⁵ Includes process cheese. ⁶ Includes cream expressed as milk.

Disappearance of Meats and Lard.—Production of meats from slaughter in Canada, total supply, distribution and per capita disappearance of meats and lard are shown in Table 46. All estimates are on a carcass-weight basis except canned meats which are in terms of product.

46.—Supply, Distribution and Disappearance of Meats and Lard 1952-57, with Average for 1946-50

NOTE.—Most of the figures in this table have been revised since the publication of the 1957-58 Year Book.

Item	Average 1946-50	1952	1953	1954	1955	1956	1957
Beef—							
Animals slaughtered in Canada..... '000	1,923.3	1,719.4	2,004.6	2,222.3	2,271.1	2,441.2	2,602.5
Estimated dressed weight..... '000 lb.	909,487	864,000	994,081	1,078,927	1,102,619	1,182,517	1,288,238
On hand, Jan. 1..... "	30,708	17,357	29,385	33,103	23,648	29,682	33,251
Imports for consumption ¹ "	3,554	11,338	13,924	18,499	19,829	18,266	21,974
Total supply..... "	943,749	892,695	1,037,390	1,130,529	1,146,096	1,230,465	1,343,463
Exports ¹ "	101,672	68,054	28,819	22,580	12,787	18,634	55,312
Used for canning..... "	39,108	9,199	9,651	11,625	13,197	20,713	18,177
On hand, Dec. 31..... "	27,217	29,385	33,103	23,648	29,682	33,251	29,712
DOMESTIC DISAPPEARANCE..... "	775,752	786,057	965,817	1,072,676	1,085,430	1,157,867	1,240,262
PER CAPITA DISAPPEARANCE..... lb.	60.0	54.4	65.1	70.2	69.1	72.0	74.8
Veal—							
Animals slaughtered in Canada.... '000	1,310.1	968.6	1,165.4	1,254.0	1,295.0	1,336.7	1,381.2
Estimated dressed weight..... '000 lb.	132,957	100,638	123,765	131,723	134,551	140,220	150,551
On hand, Jan. 1..... "	5,509	4,085	3,641	5,199	3,700	4,662	5,701
Imports..... "	2	2	2	2	2	2	2
Total supply..... "	138,466	104,723	127,406	136,922	138,251	144,882	156,252
Exports..... "	2	2	2	2	2	2	2
Used for canning..... "	2,608	1,736	1,454	1,866	1,297	1,483	957
On hand, Dec. 31..... "	5,080	3,641	5,199	3,700	4,662	5,701	5,226
DOMESTIC DISAPPEARANCE..... "	130,778	99,346	120,753	131,856	132,292	137,698	150,069
PER CAPITA DISAPPEARANCE..... lb.	10.1	6.9	8.1	8.6	8.4	8.6	9.0
Mutton and Lamb—							
Animals slaughtered in Canada.... '000	1,077.7	673.6	692.6	720.7	754.9	761.6	766.8
Estimated dressed weight..... '000 lb.	47,640	29,743	29,708	30,702	32,385	32,292	33,356
On hand, Jan. 1..... "	6,843	3,465	4,228	3,359	2,901	4,816	4,865
Imports for consumption..... "	103	2,661	4,745	7,291	10,796	9,546	11,015
Total supply..... "	54,586	35,869	38,681	41,352	46,082	46,654	49,236
Exports..... "	5,522	46	52	53	273	45	472
Used for canning..... "	508	350	310	301	330	628	558
On hand, Dec. 31..... "	6,113	4,228	3,359	2,901	4,816	4,865	3,955
DOMESTIC DISAPPEARANCE..... "	42,443	31,245	34,960	38,097	40,663	41,116	44,251
PER CAPITA DISAPPEARANCE..... lb.	3.3	2.2	2.4	2.5	2.6	2.6	2.7
Pork—							
Animals slaughtered in Canada.... '000	6,840.4	8,057.4	6,198.3	6,143.7	6,932.2	6,899.3	6,515.5
Estimated dressed weight..... '000 lb.	890,307	1,039,405	796,482	795,609	887,708	887,250	847,015
On hand, Jan. 1..... "	37,773	36,794	65,582	28,731	32,280	34,965	20,571
Imports for consumption ¹ "	3,891	4,873	481	1,525	167	154	1,512
Total supply..... "	931,971	1,081,072	862,545	825,865	920,155	922,369	869,098
Exports ¹ "	188,311	15,041	55,320	60,607	64,109	55,408	38,183
Used for canning..... "	46,628	190,911	55,935	39,093	48,844	50,574	40,313
On hand, Dec. 31..... "	37,452	65,582	28,731	32,280	34,965	20,571	23,726
DOMESTIC DISAPPEARANCE..... "	659,580	809,538	722,559	693,885	772,237	795,816	766,876
PER CAPITA DISAPPEARANCE..... lb.	51.0	56.0	48.7	45.4	49.2	49.5	46.2

For footnotes, see end of table.

46.—Supply, Distribution and Disappearance of Meats and Lard 1952-57 with,
Average for 1946-50—concluded

Item	Average 1946-50	1952	1953	1954	1955	1956	1957
Canned Meats—							
Estimated production..... '000 lb.	89,749	144,183	56,249	58,337	76,200	81,699	70,100
On hand, Jan. 1..... "	15,362	9,530	75,118	36,102	15,165	20,775	18,764
Imports for consumption..... "	4,314	12,975	11,309	15,904	15,620	13,662	21,274
Total supply..... "	109,425	166,688	142,676	110,343	106,985	116,136	110,138
Exports..... "	56,589	14,874	46,743	26,226	14,919	11,442	5,241
On hand, Dec. 31..... "	8,807	75,118	36,102	15,165	20,775	18,764	18,844
DOMESTIC DISAPPEARANCE..... "	44,029	76,696	59,831	68,952	71,291	85,930	86,053
PER CAPITA DISAPPEARANCE..... lb.	3.4	5.3	4.0	4.5	4.5	5.3	4.2
Offal—							
Estimated production..... '000 lb.	81,218	80,815	78,305	82,935	88,185	91,797	93,362
On hand, Jan. 1..... "	6,090	4,551	7,311	5,169	5,348	5,042	5,146
Imports for consumption ¹ "	973	1,594	4,076	3,759	3,763	2,360	3,150
Total supply..... "	88,281	86,960	89,692	91,863	97,296	99,199	101,658
Exports ¹ "	5,834	2,535	6,680	8,954	7,112	6,831	5,587
Used for canning..... "	9,631	2,493	3,509	3,871	2,099	2,285	1,598
On hand, Dec. 31..... "	5,796	7,311	5,169	5,348	5,042	5,146	5,848
DOMESTIC DISAPPEARANCE..... "	67,020	74,621	74,334	73,690	83,043	84,937	88,625
PER CAPITA DISAPPEARANCE..... lb.	5.2	5.2	5.0	4.8	5.3	5.3	5.3
Lard²—							
Estimated production..... '000 lb.	113,756	170,790	125,485	119,044	132,487	133,248	123,592
On hand, Jan. 1..... "	2,620	6,000	12,352	4,916	5,490	5,707	4,866
Imports for consumption..... "	9,358	1,265	6,790	2,850	6,195	15,301	28,015
Total supply..... "	125,734	178,055	144,627	126,810	144,172	154,256	156,473
Exports..... "	431	14,289	1,426	676	1,312	320	8
On hand, Dec. 31..... "	3,102	12,352	4,916	5,490	5,707	4,866	6,823
DOMESTIC DISAPPEARANCE..... "	122,201	151,414	138,285	120,644	137,153	149,070	149,642
PER CAPITA DISAPPEARANCE..... lb.	9.4	10.5	9.3	7.9	8.7	9.3	9.0

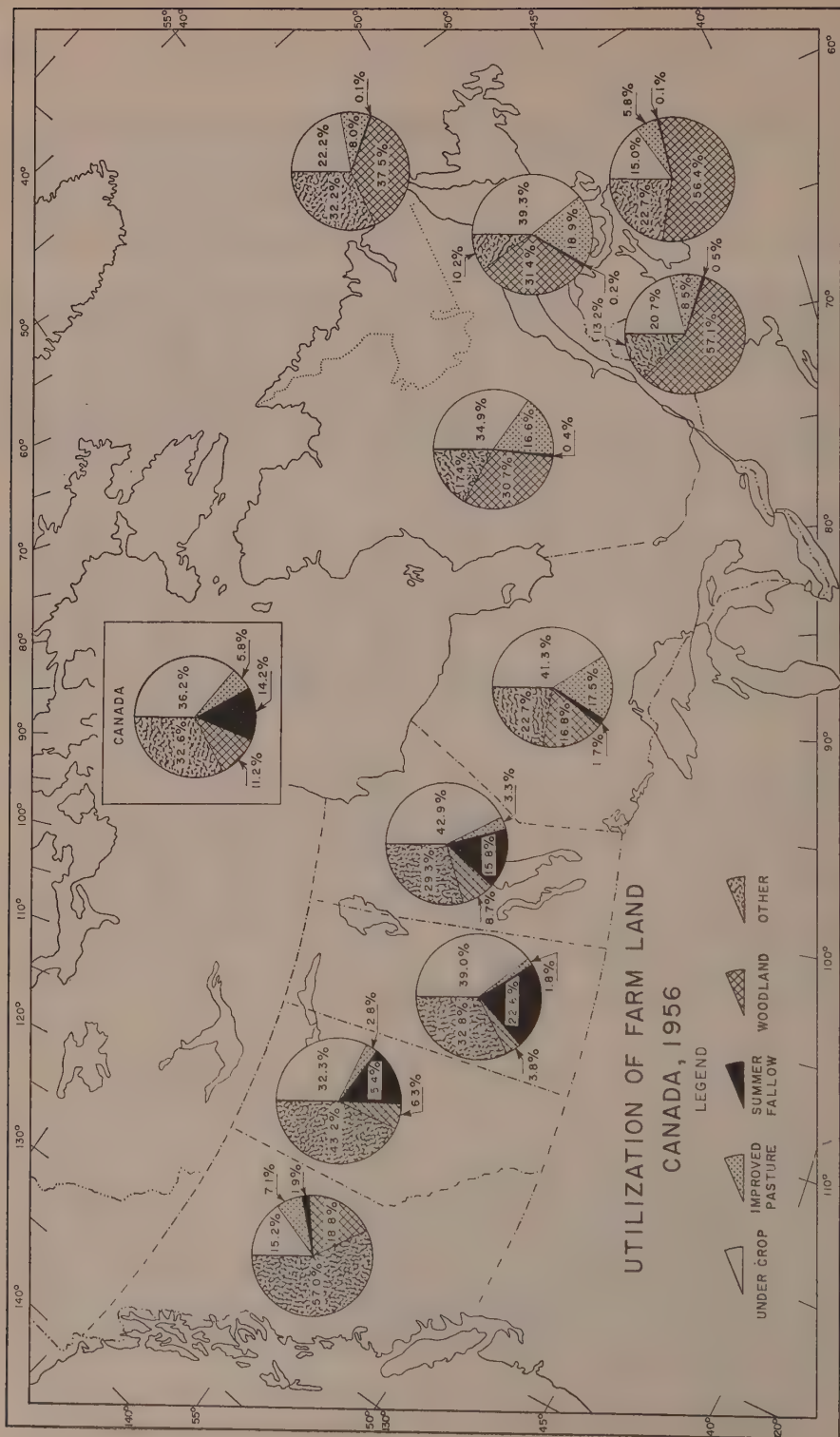
¹ Excluding canned meats. ² Included with beef. ³ Includes commercial lard production and estimated lard equivalent of renderable pork fat available from all uninspected slaughter.

Section 5.—Agricultural Statistics of the Census*

Census of Agriculture statistics relating to farms, farm mechanization, electrification and area are included in this Section. More detailed information may be obtained from the *Census of Canada 1956*, Volume II.

For census purposes a farm is defined as a holding on which agricultural operations are carried out and which is three acres or more in size, or from one to three acres in size, and with an agricultural production in 1955 valued at \$250 or more. The holding may consist of a single tract of land or of a number of separate tracts held under the same or different tenures, and operated as a single unit. Where the farm was made up of several parts located in different municipalities, the 1956 Census reported the complete farm as one unit in the municipality where the headquarters was located. The same definition was used in the 1951 Census.

* Prepared in the Agriculture Section of the Census Division, Dominion Bureau of Statistics.

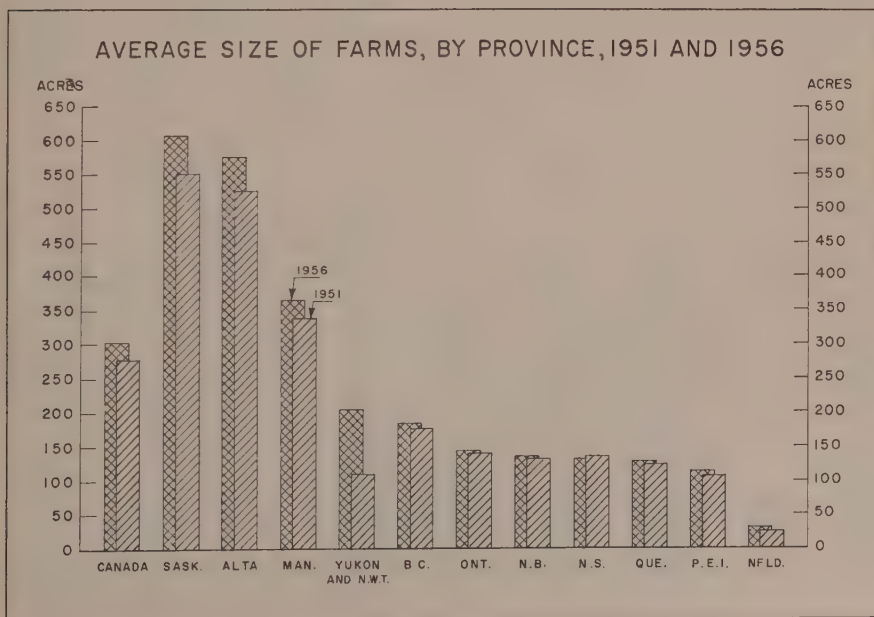


Farms Classified by Tenure and Condition.—Brief statistical information on the tenure and condition of occupied farm land as recorded at the 1951 and 1956 Censuses is given at pp. 455-456 of the 1957-58 Year Book. On the facing page is a graphical presentation showing the percentages of the farm land in each province under crop, improved pasture, summer fallow, woodland and other condition as at June 1, 1956; absolute figures will be found in the land classification table on p. 14 of this volume.

Number of Farms.—The number of farms in Canada at June 1, 1956, was 575,015, a decrease of 48,076 from the 623,091 farms recorded in the 1951 Census. As compared with 1951, all the provinces showed decreases in number of farms ranging from 5.8 p.c. in Alberta to 34.2 p.c. in Newfoundland.

47.—Number of Farms, by Province, Censuses of 1951 and 1956

Province or Territory	1951	1956	Percentage Change 1951-56
	No.	No.	
Newfoundland.....	3,626	2,387	-34.2
Prince Edward Island.....	10,137	9,432	-7.0
Nova Scotia.....	23,515	21,075	-10.4
New Brunswick.....	26,431	22,116	-16.3
Quebec.....	134,336	122,617	-8.7
Ontario.....	149,920	140,602	-6.2
Manitoba.....	52,383	49,201	-6.1
Saskatchewan.....	112,018	103,391	-7.7
Alberta.....	84,315	79,424	-5.8
British Columbia.....	26,406	24,748	-6.3
Yukon and Northwest Territories.....	4	22	+450.0
Canada.....	623,091	575,015	-7.7



Area of Farms.—The total area of occupied farm land in Canada was 0.1 p.c. less in 1956 than in 1951. Decreases in the Atlantic Provinces, Ontario, Quebec and British Columbia were slightly greater than increases in the Prairie Provinces.

48.—Area of Farms, by Province, Censuses of 1951 and 1956

Province or Territory	1951	1956	Percentage Change 1951-56
	acres	acres	
Newfoundland.....	85,040	71,814	-15.6
Prince Edward Island.....	1,095,304	1,065,463	-2.7
Nova Scotia.....	3,173,691	2,775,642	-12.5
New Brunswick.....	3,470,234	2,981,449	-14.1
Quebec.....	16,786,405	15,910,128	-5.2
Ontario.....	20,880,054	19,879,646	-4.8
Manitoba.....	17,730,393	17,931,817	+1.1
Saskatchewan.....	61,663,195	62,793,979	+1.8
Alberta.....	44,459,632	45,970,395	+3.4
British Columbia.....	4,702,274	4,538,881	-3.5
Yukon and Northwest Territories.....	432	4,477	+936.3
Canada.....	174,046,654	173,923,691	-0.1

Farm Machinery.—The upward trend in the number of machines on farms in Canada continued through the 1951-56 period. For Canada as a whole, all types of machines included in the 1956 Census showed an increase in number and in farms reporting them.

49.—Farm Machinery, by Province, Censuses of 1951 and 1956

Province and Year	Automobiles		Tractors		Motor Trucks		Gasoline Engines		Grain Combines	
	No.	Farms Reporting	No.	Farms Reporting	No.	Farms Reporting	No.	Farms Reporting	No.	Farms Reporting
Newfoundland.....1951	185	169	126	110	507	476	136	118	—	—
.....1956	268	255	296	272	735	686	83	66	—	—
P. E. Island.....1951	4,147	4,021	2,776	2,714	1,679	1,614	3,813	3,181	18	18
.....1956	4,511	4,305	4,840	4,588	3,247	3,089	3,519	2,658	238	238
Nova Scotia.....1951	6,970	6,757	4,307	4,056	5,687	5,308	2,178	1,901	16	16
.....1956	8,209	7,804	6,537	6,024	7,200	6,685	2,510	2,025	88	88
New Brunswick.....1951	7,999	7,808	5,221	5,023	4,736	4,523	2,439	2,299	211	211
.....1956	8,757	8,413	7,646	7,017	5,614	5,197	1,478	1,341	598	598
Quebec.....1951	41,602	40,937	31,971	30,835	19,167	18,438	30,692	28,589	420	418
.....1956	52,738	51,492	54,322	50,291	28,756	27,382	21,480	19,446	1,481	1,475
Ontario.....1951	114,870	107,031	105,204	92,065	41,486	38,481	20,243	16,524	10,031	9,856
.....1956	117,321	105,574	136,062	105,792	58,041	52,859	24,289	18,214	16,644	16,294
Manitoba.....1951	32,060	30,848	50,984	40,641	21,163	19,937	17,370	14,150	15,268	14,663
.....1956	32,619	31,312	59,265	42,236	28,556	26,255	24,305	18,699	21,425	20,679
Saskatchewan.....1951	62,963	60,916	106,664	90,307	52,626	49,277	55,763	41,630	42,997	41,215
.....1956	64,941	62,692	121,388	91,768	74,498	66,076	100,732	63,253	61,861	58,699
Alberta.....1951	46,314	44,431	79,282	65,369	39,723	35,732	46,003	34,248	20,852	19,569
.....1956	47,714	44,778	94,156	68,393	58,749	49,974	63,462	41,024	33,531	31,317
British Columbia.....1951	12,557	12,103	13,148	11,535	9,291	8,460	4,407	3,375	687	665
.....1956	14,933	13,804	15,282	12,422	11,758	10,254	7,896	5,196	1,060	995
Canada.....1951	329,667	315,021	399,686	342,658	196,122	182,255	183,051	146,018	90,500	86,631
.....1956	352,018	330,436	499,811	388,816	277,183	248,474	249,779	171,925	136,927	130,384

¹ Includes the Yukon and Northwest Territories.

Farm Electrification.—Nearly three-quarters of the farms in Canada reported electric power in 1956. Provinces were divided into two distinct groups—above and below the national average of 73.5 p.c. In the first group were Nova Scotia, New Brunswick, Quebec, Ontario, Manitoba and British Columbia in which the percentage of farms reporting electric power ranged from 81.9 p.c. in British Columbia to 89.1 p.c. in Ontario. The second group included Newfoundland, Prince Edward Island, Saskatchewan and Alberta where the percentages ranged from 39.7 p.c. in Prince Edward Island to 51.5 p.c. in Alberta.

50.—Farm Electrification, by Province, Census 1956

Province	Farms Reporting One or More Sources of Power	Source of Supply		
		Power Line	Wind Electric	Other Sources
	No.	No.	No.	No.
Newfoundland.....	1,059	1,010	4	45
Prince Edward Island.....	3,748	3,678	5	67
Nova Scotia.....	18,677	18,604	10	66
New Brunswick.....	19,328	18,969	64	297
Quebec.....	108,015	107,259	215	553
Ontario.....	125,310	124,873	79	365
Manitoba.....	41,464	41,003	66	399
Saskatchewan.....	43,778	34,819	3,421	5,604
Alberta.....	40,937	35,844	1,312	3,839
British Columbia.....	20,279	19,334	19	930
Canada¹.....	422,604	405,396	5,195	12,171

¹ Includes the Yukon and Northwest Territories.

Section 6.—International Crop Statistics

Tables 51 and 52 are based on estimates published in Dec. 31, 1958 and Jan. 29, 1959, by the Foreign Agricultural Service, United States Department of Agriculture, and give the acreages and production of wheat and the production of oats and barley for the harvests of 1956 and 1957, with averages for the years 1950-54, in the leading countries of the world.

51.—Estimated Acreages and Production of Wheat Harvested in 1956 and 1957 in Specified Countries, with Average for 1950-54

Continent and Country	Acreages of Wheat			Production of Wheat		
	Average 1950-54	1956	1957	Average 1950-54	1956	1957
	'000 acres	'000 acres	'000 acres	'000 bu.	'000 bu.	'000 bu.
North America¹.....	91,200	74,970	67,150	1,654,000	1,624,000	1,369,000
Canada.....	26,129	22,781	21,031	537,632	573,040	370,508
Mexico.....	1,647	2,315	2,365	21,788	45,655	50,580
United States.....	63,361	49,784	43,664	1,094,183	1,004,272	947,102
Europe¹.....	71,430	67,580	73,240	1,640,000	1,585,000	1,945,000
Europe, West ¹	46,010	43,080	47,940	1,150,000	1,132,000	1,369,000
Austria.....	573	620	636	16,920	20,960	21,090
Belgium.....	421	464	514	20,278	21,920	27,590
Denmark.....	195	164	158	10,630	9,770	10,030
Finland.....	377	328	280	8,739	7,300	6,490
France.....	10,916	7,000	11,534	315,244	225,000	407,200
Germany, West.....	2,728	2,830	3,000	110,228	127,560	140,630
Greece.....	2,400	2,622	2,709	40,042	45,730	63,460
Ireland.....	362	340	397	13,036	15,900	18,740
Italy.....	12,085	12,350	12,375	288,080	318,980	310,000
Luxembourg.....	45	38	—	1,882	1,140	1,400
Netherlands.....	209	212	245	11,376	11,340	14,430
Norway.....	56	51	35	1,682	2,050	1,100

For footnote, see end of table, p. 454.

51.—Estimated Acreages and Production of Wheat Harvested in 1956 and 1957 in Specified Countries, with Average for 1950-54—concluded

Continent and Country	Acreages of Wheat			Production of Wheat		
	Average 1950-54	1956	1957	Average 1950-54	1956	1957
	'000 acres	'000 acres	'000 acres	'000 bu.	'000 bu.	'000 bu.
Europe, West—concluded						
Portugal.....	1,785	1,942	2,011	23,526	20,500	29,280
Spain.....	10,470	10,638	10,823	155,000	155,000	180,000
Sweden.....	896	980	823	29,640	34,950	26,125
Switzerland.....	219	195	238	9,080	7,030	10,480
United Kingdom.....	2,263	2,293	2,113	94,646	106,210	100,165
Europe, East¹	25,420	24,500	25,300	490,000	453,000	576,000
Bulgaria.....	3,540	3,398	3,370	66,000	57,000	72,500
Czechoslovakia.....	1,840	1,785	1,833	52,500	56,000	—
Germany, East.....	1,120	940	1,038	38,100	35,900	39,000
Hungary.....	3,400	3,430	3,080	72,500	67,800	71,500
Poland.....	3,730	3,620	3,568	70,800	78,000	85,000
Romania.....	6,710	7,150	7,340	108,750	90,000	136,000
Yugoslavia.....	—	4,003	4,868	80,000	64,670	114,000
U.S.S.R. (Europe and Asia) ²	111,500	153,000	170,000	1,240,000	2,000,000	1,800,000
Asia¹	127,790	147,060	146,630	1,765,000	1,860,000	1,915,000
China.....	—	—	—	890,000	—	—
India.....	24,456	30,559	33,580	259,950	321,900	347,700
Iran.....	—	—	—	75,000	82,670	102,880
Iraq.....	1,871	—	—	22,210	28,500	41,000
Israel.....	90	145	150	1,000	2,719	3,050
Japan.....	1,766	1,625	1,526	53,322	50,550	48,870
Jordan.....	700	804	693	5,534	8,910	8,089
Korea, South.....	245	305	357	3,350	4,740	4,800
Lebanon.....	165	173	173	1,902	2,280	2,388
Pakistan.....	10,364	11,298	11,807	129,800	123,760	142,000
Syria.....	2,277	2,718	2,718	26,510	32,150	36,740
Turkey.....	13,514	18,125	17,878	213,598	215,000	250,000
Africa¹	16,480	17,400	17,680	185,000	215,000	185,000
Algeria.....	4,267	4,800	—	41,508	56,440	46,700
Egypt.....	1,631	1,636	1,572	49,060	56,860	53,800
Morocco ³	3,496	3,583	3,239	35,302	38,000	23,295
Tunisia.....	2,399	2,937	3,205	19,796	17,770	18,300
Union of South Africa ⁴	3,020	2,671	3,041	23,040	30,730	29,000
South America¹	17,910	20,630	18,670	310,000	368,000	325,000
Argentina.....	11,871	13,324	10,840	216,204	261,980	213,500
Brazil.....	1,475	2,632	2,817	18,500	36,000	29,400
Chile.....	1,933	1,894	1,995	37,446	36,320	46,200
Peru.....	410	345	360	5,814	4,530	5,060
Uruguay.....	1,515	1,700	1,900	22,376	21,640	22,000
Oceania.....	10,832	7,966	7,567	186,630	137,950	100,570
Australia.....	10,716	7,900	7,500	181,910	135,000	97,570
New Zealand.....	116	66	67	4,720	2,950	3,000
World Totals¹	447,140	488,610	500,940	6,980,000	7,790,000	7,640,000

¹ Estimated totals, which in the case of production are rounded to millions, include allowances for any missing data for countries shown and for other producing countries not shown. ² Tentative unofficial production estimates. ³ Excludes data for areas formerly known as Spanish Morocco and Tangier. ⁴ Production on European holdings only.

52.—Estimated Production of Oats and Barley Harvested in 1956 and 1957 in Specified Countries, with Average for 1950-54

Continent and Country	Oats			Barley		
	Average 1950-54	1956	1957	Average 1950-54	1956	1957
	'000 bu.	'000 bu.	'000 bu.	'000 bu.	'000 bu.	'000 bu.
North America¹	1,707,000	1,690,000	1,685,000	519,000	655,000	661,000
Canada.....	417,429	524,517	380,599	228,400	269,067	215,993
Mexico.....	3,759	2,067	3,100	7,554	9,035	7,810
United States.....	1,285,417	1,163,160	1,300,954	208,026	376,373	437,170

For footnote, see end of table.

52.—Estimated Production of Oats and Barley Harvested in 1956 and 1957 in Specified Countries, with Average for 1950-54—concluded

Continent and Country	Oats			Barley		
	Average 1950-54	1956	1957	Average 1950-54	1956	1957
	'000 bu.	'000 bu.	'000 bu.	'000 bu.	'000 bu.	'000 bu.
Europe¹	1,375,000	1,425,000	1,260,000	775,000	1,075,000	1,040,000
Europe, West ¹	1,020,000	1,075,000	875,000	560,000	860,000	775,000
Austria.....	24,156	25,800	23,440	13,288	17,660	18,000
Belgium.....	32,462	33,340	31,270	12,344	13,240	13,580
Denmark.....	58,740	58,700	54,150	88,490	110,320	117,580
Finland.....	53,801	45,400	48,100	10,904	13,140	15,980
France.....	242,298	317,200	177,700	89,372	295,000	166,550
Germany, West.....	180,322	168,890	153,520	82,320	106,100	115,025
Greece.....	9,558	10,100	12,800	10,424	10,570	11,660
Ireland.....	38,744	37,520	28,000	8,910	14,650	17,270
Italy.....	37,516	34,890	40,040	13,057	12,680	13,590
Luxembourg.....	2,602	2,900	—	—	—	—
Netherlands.....	32,210	33,260	34,760	11,048	12,520	13,390
Norway.....	11,726	12,560	9,350	7,350	13,660	14,495
Portugal.....	9,424	6,650	8,840	5,780	4,200	5,430
Spain.....	35,306	31,120	36,860	88,830	71,250	86,350
Sweden.....	59,744	78,050	58,380	14,850	28,140	25,580
Switzerland.....	4,946	4,740	4,250	2,581	4,300	3,220
United Kingdom.....	186,774	174,020	150,150	100,326	130,670	137,990
Europe, East ¹	355,000	350,000	385,000	215,000	215,000	265,000
Bulgaria.....	11,000	8,400	11,500	16,900	14,000	20,300
Czechoslovakia.....	61,000	70,000	62,000	52,100	64,500	62,500
Germany, East.....	76,600	61,000	58,500	26,800	30,600	35,000
Hungary.....	11,000	10,800	18,000	29,500	26,500	44,000
Poland.....	148,000	155,500	175,000	50,400	52,000	56,500
Romania.....	26,900	21,000	—	19,500	12,200	—
Yugoslavia.....	19,420	22,320	33,345	16,600	15,800	27,740
U.S.S.R. (Europe and Asia) ²	835,000	875,000	800,000	350,000	525,000	400,000
Asia¹	110,000	110,000	105,000	805,000	840,000	870,000
China.....	70,000	—	—	325,000	—	—
India.....	—	—	—	118,280	129,270	131,900
Iran.....	—	—	—	36,798	36,740	45,930
Iraq.....	—	—	—	35,270	46,670	59,930
Japan.....	9,948	11,090	12,950	90,439	96,380	89,690
Korea, South.....	—	—	—	25,000	34,000	31,000
Lebanon.....	—	—	—	664	970	1,080
Pakistan.....	—	—	—	6,600	6,910	6,160
Syria.....	535	—	—	12,292	25,260	25,260
Turkey.....	24,958	25,000	30,000	128,380	130,000	160,000
Africa¹	21,000	15,000	15,000	145,000	155,000	85,000
Algeria.....	8,940	6,680	6,200	37,494	46,210	25,980
Egypt.....	—	—	—	4,976	5,920	6,000
Morocco ³	3,978	1,590	1,450	71,220	71,660	21,495
Tunisia.....	1,074	—	—	8,920	8,500	8,500
Union of South Africa.....	5,800	5,000	5,200	2,350	1,000	—
South America¹	67,000	92,000	83,000	63,000	87,000	70,000
Argentina.....	56,284	73,540	68,500	39,320	62,670	46,400
Chile.....	6,800	7,710	9,430	4,316	4,500	4,500
Peru.....	—	—	—	9,980	7,315	7,630
Uruguay.....	2,816	3,830	3,600	1,344	2,050	1,425
Oceania	44,560	47,860	41,030	33,739	54,305	34,865
Australia.....	42,262	44,250	39,280	31,351	51,330	31,740
New Zealand.....	2,308	3,610	1,750	2,388	2,975	3,125
World Totals¹	4,160,000	4,255,000	3,990,000	2,690,000	3,390,000	3,160,000

¹ Estimated totals, which are rounded to millions, include allowances for any missing data for countries shown and for other producing countries not shown. ² Tentative unofficial production estimates. ³ Excludes data for areas formerly known as Spanish Morocco and Tangier.

CHAPTER X.—FORESTRY*

CONSPECTUS

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NOTE.—The interpretation of the symbols used in the tables throughout the Year Book will be found facing p. 1 of this volume.

Land is one of the bases of the Canadian economy and wise use of the land is the foundation of good forestry. In addition to providing the greatest amount of the most usable woods as economically as possible, good forestry aids in maintaining agricultural lands against drought and erosion, continuously protects water-catchment areas and assures supplies of water, furnishes cover for game and fur-bearing animals, and gives opportunity for recreation which only the forests can provide.

Section 1.—Forest Regions†

The forests of Canada cover a vast area in the north temperate climatic zone. Wide variations in physiographic, soil and climatic conditions cause marked differences in the character of the forests in different parts of the country; hence eight fairly well defined forest regions may be recognized. These regions, with the relative proportion of the total area of all forest regions occupied by each, are as follows:—

Region	Percentage of Forested Area	Region	Percentage of Forested Area
Boreal.....	82.1	Acadian.....	2.0
Great Lakes-St. Lawrence.....	6.5	Columbia.....	0.8
Subalpine.....	3.7	Deciduous.....	0.4
Montane.....	2.3		
Coast.....	2.2	TOTAL.....	100.0

Boreal Forest Region.—The Boreal Region comprises the greater part of the forested area of Canada, forming a continuous belt from the Atlantic coastline of Newfoundland westward to the Rocky Mountains and northwestward to Alaska. The white and the black spruces are characteristic tree species; other prominent conifers are tamarack ranging throughout the region, balsam fir and jack pine in the eastern and central portions, and

* Sections of this Chapter that deal with forestry and the federal forestry program were revised in the Forest Economics Section, Forestry Branch, Department of Northern Affairs and National Resources. Provincial forestry programs were prepared by the forestry officials of the respective provincial governments. Sections dealing with forest and allied industries, except as otherwise noted, have been revised in the Forestry Section, Industry and Merchandising Division, Dominion Bureau of Statistics.

† A more detailed discussion of forest regions is given in Bulletin No. 89, *A Forest Classification for Canada* by W. E. D. Halliday, a publication of the Forestry Branch, Department of Northern Affairs and National Resources, Ottawa. Accounts of variations in Canadian physiography and climate are included in the special article on The Climate of Canada, appearing at pp. 23-51 of this volume.

alpine fir and lodgepole pine in the western and northwestern parts. Although the region is primarily coniferous there is a general admixture of broadleaved trees such as the white birches and the poplars; these are important in the central and south-central portions, particularly where the region grades into the Grassland Formation of the prairies. In turn the proportion of barrens (non-forested rock, muskeg and tundra) increases in the northern parts until the region finally merges into the Tundra Formation. In the southern parts of the eastern portions of the region there is considerable intrusion of species from the Great Lakes-St. Lawrence Forest Region, such as the white and the red pines, yellow birch, sugar maple, black ash and eastern white cedar.

Subalpine Forest Region.—Coniferous forest found on the higher slopes of the mountains east of the Coast Ranges in British Columbia is known as the Subalpine Region. It extends northward to the divide between the drainage of the Skeena, Nass and Peace Rivers and that of the Stikine and Liard Rivers. The characteristic species are Engelmann spruce, alpine fir and lodgepole pine. There is a close relationship with the Boreal Region, from which the black and the white spruces and aspen intrude, more particularly in the northern parts. There is also some entry of Douglas fir from the Montane Forest, as well as western hemlock, western red cedar and amabilis fir from the Coast Forest. Other species found are western larch, whitebark pine and limber pine.

Montane Forest Region.—This region occupies a large part of the interior uplands of British Columbia, part of the Kootenay Valley and a small area on the east side of the Rocky Mountains. It is a northern extension of the typical forest of much of the western mountain system in the United States, and comes in contact with the Coast, Columbia and Subalpine Forests. Ponderosa pine is a characteristic species of the southern portions, to which it is restricted. Douglas fir is found throughout but more particularly in the central and southern parts. Lodgepole pine and aspen are generally present, the latter being well represented in the north-central portions. Engelmann spruce and alpine fir from the Subalpine Region become important constituents in the northern parts, together with white birch. The Boreal white spruce also enters here. Extensive bunch grass and sage brush communities of the Grassland Formation are found in many of the river valleys.

Coast Forest Region.—This is part of the Pacific Coast forest of North America. Essentially coniferous, the Coast Region consists principally of western red cedar and western hemlock, with Douglas fir in the south and Sitka spruce in the north. Amabilis fir and yellow cedar occur widely and, together with mountain hemlock and alpine fir, are common towards the timberline. Western white pine is found in the southern parts. Broadleaved trees such as black cottonwood, red alder and broadleaf maple have a limited distribution in this region. Arbutus and garry oak occur in Canada only on the southeast coast of Vancouver Island and the adjacent mainland. These are species that have entered from the Montane Forest in the United States.

Columbia Forest Region.—A large part of the Kootenay River valley, the upper valleys of the Thompson and Fraser Rivers, and the Quesnel Lake area of British Columbia contain a coniferous forest closely resembling that of the Coast Region. Western red cedar and western hemlock are the characteristic species of this Columbia Region. Associated with these are Douglas fir, which is of general distribution, and, in the southern parts, western white pine, western larch and grand fir. Engelmann spruce from the Subalpine Region is important in the upper Fraser Valley and is found to some extent at the upper levels of the forest in the remainder of the region. Towards lower elevations in the west and in parts of the Kootenay Valley, the forest grades into the Montane Region and in a few places into the Grassland Formation.

Deciduous Forest Region.—A small portion of this forest, widespread in the eastern United States, is found in southwestern Ontario between Lakes Huron, Erie and Ontario. Here with the broadleaved trees common to the Great Lakes-St. Lawrence Forest Region, such as sugar maple, beech, white elm, basswood, red ash, white oak and butternut, are

scattered a number of other broadleaved species which have their northern limits in this locality. Among these are the tulip-tree, cucumber-tree, papaw, red mulberry, Kentucky coffee-tree, redbud, black gum, blue ash, sassafras, mockernut and pignut hickories, and scarlet, black and pin oaks. Black walnut, sycamore and swamp white oak also are largely confined to this region. Conifers are few, mainly scattered white pine, tamarack, red juniper and hemlock.

Great Lakes-St. Lawrence Forest Region.—Along the Great Lakes and the St. Lawrence River valley is a forest of a very mixed nature, characterized by the white and the red pines, eastern hemlock and yellow birch with certain dominant broadleaved species common to the Deciduous Forest Region, such as sugar maple, red maple, red oak, basswood and white elm. Other species with wide range are the eastern white cedar, the largetooth aspen and, to a lesser extent, beech, white oak, butternut and white ash. Boreal species, such as the white and the black spruces, balsam fir, jack pine, poplar and white birch, intrude from the north, and in the east, red spruce from the Acadian Forest becomes abundant in certain areas.

Acadian Forest Region.—The greater part of the Maritime Provinces contains a forest closely related to both the Great Lakes-St. Lawrence and the Boreal Regions. The characteristic species is red spruce, with which are associated balsam fir, yellow birch and sugar maple, with some red pine, white pine, beech and hemlock. Other species of wide distribution are the black and the white spruces, red oak, white elm, black ash, red maple, white birch, wire birch and the poplars. Eastern white cedar and jack pine, however, are restricted almost entirely to the western half of the region.

Section 2.—Forest Resources

The forested area of Canada is estimated at 1,612,593 sq. miles, and about 60 p.c. of that area is capable of producing merchantable timber. Of this productive area, 720,421 sq. miles are now accessible for commercial operations and the remainder, at present beyond the reach of economical transportation facilities, contains much valuable timber that will be brought progressively into commercial development as demand requires its use and as transportation becomes available. The great areas of forest considered commercially non-productive are nevertheless of significant value to the country in providing valuable protection for drainage basins and shelter for game and fur-bearing animals. The total forested area of Canada, classified by type of growth and by province is given in Table 1, p. 14.

There are more than 150 tree species in Canada of which 31 are conifers, commonly called 'softwoods'. About two-thirds of these softwoods and 10 p.c. of the large number of deciduous or 'hardwood' species are of commercial importance. Approximately 83 p.c. of the volume of merchantable timber is made up of softwood species. The dominant species existing in each forest region are given in Section 1. Detailed information is contained in Forestry Branch Bulletin No. 61, *Native Trees of Canada*,* published by the Department of Northern Affairs and National Resources.

The predominant part played by the lumber and other forest products industries in the development of Canada has resulted in a widespread tendency to evaluate the forests in terms of timber alone. A growing realization of the economic importance of the non-timber values, however, is bringing about increasing recognition of the true value of the forests and is thus developing a broader concept of forestry.

* Obtainable from the Queen's Printer, Ottawa, price \$1.50.

1.—Estimate of Standing Timber, by Type and Size and by Province and Region, 1958

Province and Region	Conifers			Broadleaved			Totals		
	Large Material ¹	Smaller Material ²	Total	Large Material ¹	Smaller Material ²	Total	Large Material ¹	Smaller Material ²	Total
Accessible	Million cu. ft.	'000 cords	Million cu. ft.	Million cu. ft.	'000 cords	Million cu. ft.	Million cu. ft.	'000 cords	Million cu. ft.
Newfoundland.....	2,290	128,885	13,245	291	3,613	599	2,581	132,498	13,844
Labrador.....	1,101	63,348	6,486	83	2,186	270	1,184	65,533	6,755
Island.....	1,189	65,537	6,760	208	1,428	329	1,397	66,965	7,089
Prince Edward Island...	43	668	100	10	455	48	53	1,123	148
Nova Scotia.....	1,606	37,965	4,832	1,141	15,677	2,475	2,747	53,642	7,307
New Brunswick.....	4,299	89,977	11,947	2,652	26,694	4,921	6,951	116,671	16,868
TOTALS, ATLANTIC PROVINCES.....	8,238	257,495	30,124	4,094	46,439	8,043	12,332	303,934	38,167
Ontario.....	7,035	437,685	44,239	2,504	172,744	17,187	9,539	610,429	61,426
Quebec.....	16,140	438,771	53,436	15,672	171,242	30,227	31,812	610,013	83,663
TOTALS, CENTRAL PROVINCES.....	23,175	876,456	97,675	18,176	343,986	47,414	41,351	1,220,442	145,089
Manitoba.....	987	55,530	5,707	919	18,727	2,511	1,906	74,257	8,218
Saskatchewan.....	1,122	52,567	5,591	1,952	50,505	6,244	3,074	103,072	11,835
Alberta.....	12,767	200,913	29,844	12,265	136,220	23,844	25,032	337,133	53,688
TOTALS, PRAIRIE PROVINCES.....	14,876	309,010	41,142	15,136	205,452	32,599	30,012	514,462	73,741
British Columbia.....	244,265	677,754	301,874	13,228	60,284	18,352	257,493	738,038	320,226
Northwest Territories...	400	36,000	3,460	360	18,500	1,932	760	54,500	5,392
Yukon Territory.....	400	25,500	2,567	70	6,300	606	470	31,800	3,173
Totals, Accessible.....	291,354	2,182,215	476,842	51,064	680,961	108,946	342,418	2,863,176	585,788
Totals, Potentially Accessible.....	49,323	279,131	73,050	1,424	57,232	6,288	50,747	336,363	79,338
Canada.....	340,677	2,461,346	549,892	52,488	738,193	115,234	393,165	3,199,539	665,126

¹ Ten inches D.B.H. and over (suitable for saw timber).² Four to nine inches D.B.H. (units of 85 cu. feet).

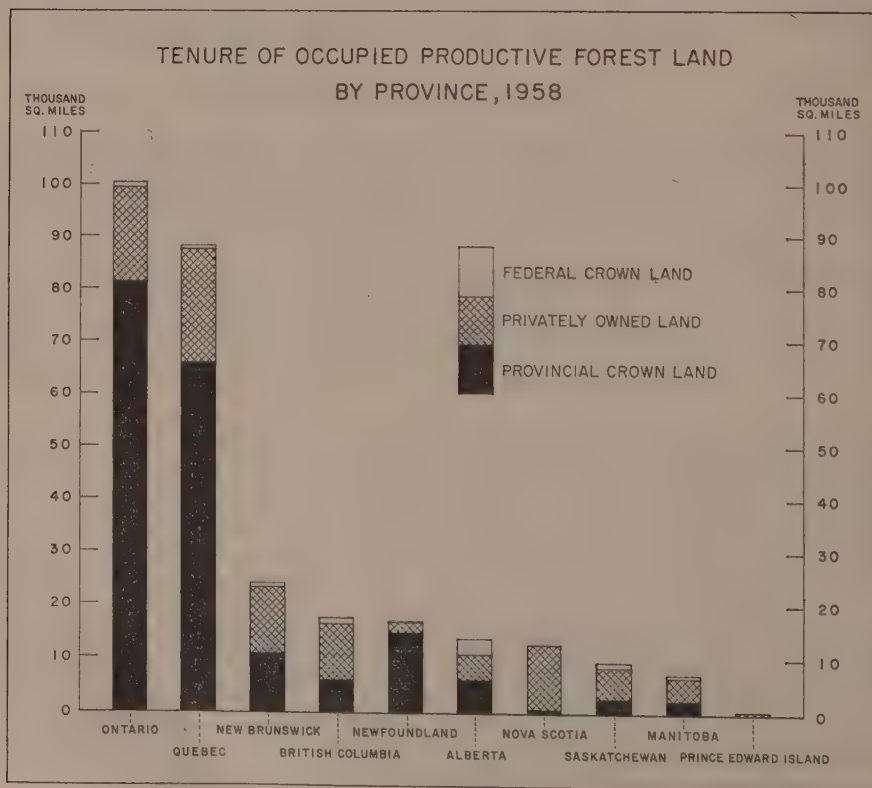
Tenure of Forest Land.—Corporations and private individuals own 10 p.c. of the productive forest land of Canada and 90 p.c. is in the possession of the Crown in the right of the federal or the provincial governments. Rights to cut Crown timber under lease or licence have been granted on 20 p.c. of the productive forest land; the remainder comprises unalienated productive forest areas and small areas of logged lands that have reverted to the Crown.

Woodlots on the 575,000 farms across Canada comprise about 5 p.c. of the total accessible productive forest. These small wooded tracts ranging in size from three or four acres to 200 or more acres are among the most accessible forests in Canada. Further, the woodlots of Eastern Canada are, in general, highly productive because they lie in the southern parts of the country and frequently occupy soils that are considerably higher in quality than those typical of the northern forests.

2.—Tenure of Occupied Productive Forest Land, by Province, 1958

(Net area in sq. miles)

Province or Territory	Provincial Crown Land			Federal Crown Land			Privately Owned Land			Total Occupied Productive Forest Land
	Leases and Licences	Permits and Sales	Total	Leases and Licences	Other	Total	Farm Wood-lots	Other	Total	
Newfoundland.....	14,905	—	14,905	—	—	—	58	2,005	2,063	16,968
Labrador.....	8,489	—	8,489	—	—	—	—	—	—	8,489
Island.....	6,416	—	6,416	—	—	—	58	2,005	2,063	8,479
Prince Edward Island.....	—	—	—	—	3	3	541	—	541	544
Nova Scotia.....	659	127	786	—	39	39	2,884	9,080	11,964	12,789
New Brunswick.....	10,133	722	10,855	—	381	381	3,100	9,472	12,572	23,808
Quebec.....	65,956	—	65,956	—	225	225	9,178	12,664	21,842	88,023
Ontario.....	81,222	—	81,222	—	2,041	2,041	6,021	12,165	18,186	101,449
Manitoba.....	1,612	972	2,584	—	497	497	2,831	1,489	4,320	7,401
Saskatchewan.....	1,183	1,562	2,745	—	592	592	4,503	1,368	5,871	9,208
Alberta.....	6,534	—	6,534	287	2,351	2,638	4,478	—	4,478	13,650
British Columbia.....	3,835	2,344	6,179	—	798	798	1,808	8,479	10,287	17,264
Northwest Territories.....	—	—	—	6	—	6	—	—	—	6
Yukon Territory.....	—	—	—	5	—	5	—	—	—	5
Canada.....	186,039	5,727	191,766	298	6,927	7,225	35,402	56,722	92,124	291,115



Section 3.—Forest Depletion

General information on forest depletion and increment as well as statistics on forest fires and fire losses are presented in this Section. The scientific control of the influences that account for wastage, such as forest fires, insect pests, etc., is dealt with in Section 4.

The average annual rate and cause of depletion of reserves of merchantable timber during the ten years 1947-56, together with annual data for 1956 and 1957, are given in Table 3. Of the total depletion of the forests in the ten-year period, 93 p.c. was utilized and 7 p.c. was destroyed by fire. (Information on the extent of damage caused by agencies other than fire, such as insects, disease and natural mortality, is not available.) The average annual utilization of 3,146,846,000 cu. feet comprised 46 p.c. logs and bolts, 39 p.c. pulpwood, 12 p.c. fuelwood, and about 3 p.c. miscellaneous products. About 6 p.c. of the total utilization was exported in the form of logs and bolts and pulpwood.

The accessible portion of the productive forests of Canada, covering an area of 720,421 sq. miles, constitute the reserve from which forest production will be obtained for many years to come. The supply of merchantable timber on this area is estimated at 585,788,000 cu. feet and the utilization in 1957 of 3,096,000,000 cu. feet therefore represented 0.5 p.c. of the accessible productive volume. However, it should be noted that utilization does not occur evenly throughout the accessible productive forest area but is concentrated on the relatively small area of occupied forest land (land under lease, licence or private ownership). Thus overcutting may occur on many of these occupied areas, emphasizing the need for orderly management of all commercial forests if the forest industries are to maintain a dominant position in the Canadian economy.

The more efficient utilization of cut timber is an important factor related to forest depletion, for there is little doubt that in the past too high a percentage of the sawn log was discarded. However, changes of great significance have taken place recently in the uses of wood, permitting the utilization of sizes, qualities and species previously considered unmerchantable. The development and manufacture of rayon, cellophane and other products of the cellulose industry have extended the use of wood and the increasing production of plastic-wood products, fibre board and laminated wood has resulted in greater use of inferior grades of wood and species of trees and therefore in the more complete utilization of forest resources and the elimination of much waste.

3.—Average Forest Utilization and Depletion 1956 and 1957 compared with Ten-Year Average 1947-56

Item	Usable Wood			Depletion		
	Av. 1947-56	1956	1957 ^a	Av. 1947-56	1956	1957 ^a
	M cu. ft.	M cu. ft.	M cu. ft.	p. c.	p. c.	p. c.
Products Utilized—						
Logs and Bolts—						
Domestic use.....	1,442,333	1,619,708	1,429,000	42.4	39.0	45.1
Exported.....	10,208	5,925	7,000	0.3	0.1	0.2
Pulpwood—						
Domestic use.....	1,065,090	1,318,849	1,165,000	31.3	31.7	36.7
Exported.....	175,521	166,045	153,000	5.2	4.0	4.8
Fuelwood.....	376,206	289,771	280,000	11.0	7.0	8.8
Other products.....	77,488	63,006	62,000	2.3	1.5	2.0
Total Utilization.....	3,146,846	3,463,304	3,096,000	92.5	83.3	97.6
Wastage—						
By forest fires.....	254,724 ¹	693,111	75,000	7.5	16.7	2.4
Total Depletion ²	3,401,570	4,156,415	3,171,000	100.0	100.0	100.0

¹ Excludes Newfoundland.

² The figure for depletion does not include wastage caused by agencies other than fire, such as insects, diseases, and natural mortality, for which no reliable estimates are available. It represents an average annual depletion of 7 cu. feet per acre on the accessible productive forest area; a much higher rate of depletion occurs on the more accessible occupied productive forest lands.

Forest Fire Statistics.—During 1957 the number of forest fires within the provincial boundaries of Canada was 5,950 compared with 5,486 in 1956 and an annual average of 5,227 for the period 1947-56. Though there were more fires in the later year, the total area burned was much smaller than in the previous year or in the average ten-year period, and more than half the loss was in small timber. As a result, the value of the loss in 1957 was only about one-tenth of the loss in 1956. About 32 p.c. of the forest fires in 1957 were caused by camp fires and smokers, 15 p.c. by railways and 14 p.c. by lightning. Fires in the federally administered Yukon and Northwest Territories were more numerous in 1957 than in the previous year but caused much less forest damage.

4.—Forest Fire Losses, 1956 and 1957 compared with Ten-Year Average 1947-56

Item	Provinces ¹			Yukon and Northwest Territories	
	Av. 1947-56 ²	1956	1957	1956	1957
Totals, Fires..... No.	5,227	5,486	5,950	99	130
Fires under 10 acres..... "	4,053	4,601	4,909	63	72
Fires 10 acres or over..... "	1,174	885	1,041	36	58
Area Burned..... acres	1,536,000	2,014,000	452,000	92,000	451,000
Merchantable timber..... "	327,000	646,000	71,000	2,000	14,000
Young growth..... "	408,000	522,000	66,000	15,000	14,000
Cut-over lands..... "	201,000	168,000	118,000	—	1,000
Non-forested lands..... "	600,000	678,000	197,000	75,000	422,000
Average Size of Fire..... acres	300	370	80	900	3,470
Merchantable Timber Burned—					
Large material (10' or over D.B.H.)... M cu. ft.	76,684	112,791	35,125	—	17
Small material (4' to 9' D.B.H.)..... "	160,392	33,702	37,587	6,112	2,227
Estimated Values Destroyed³..... \$	5,397,000	14,386,000	1,465,000	126,000	133,000
Merchantable timber..... \$	3,021,000	11,623,000	769,000	72,000	19,000
Young growth..... \$	1,209,000	2,261,000	222,000	31,000	29,000
Cut-over lands..... \$	191,000	212,000	116,000	—	1,000
Other property burned..... \$	976,000	290,000	358,000	23,000	84,000
Actual Cost of Fire Fighting..... \$	2,843,000	2,974,000	2,060,000	35,000	55,000
Totals, Damage and Fire Fighting Costs \$	8,240,000	17,360,000	3,525,000	161,000	188,000
Area under protection..... sq. miles	994,000	1,117,000	1,208,000	125,000	125,000

¹ Includes federal lands within provincial boundaries.
prior to 1949.

² Newfoundland excluded; no records available
prior to 1949.

³ Figures do not include such values as damage to soil, stream-flow, wildlife, recreation and tourist facilities.

5.—Forest Fire Losses, by Province, 1956 and 1957 compared with Ten-Year Average 1947-56

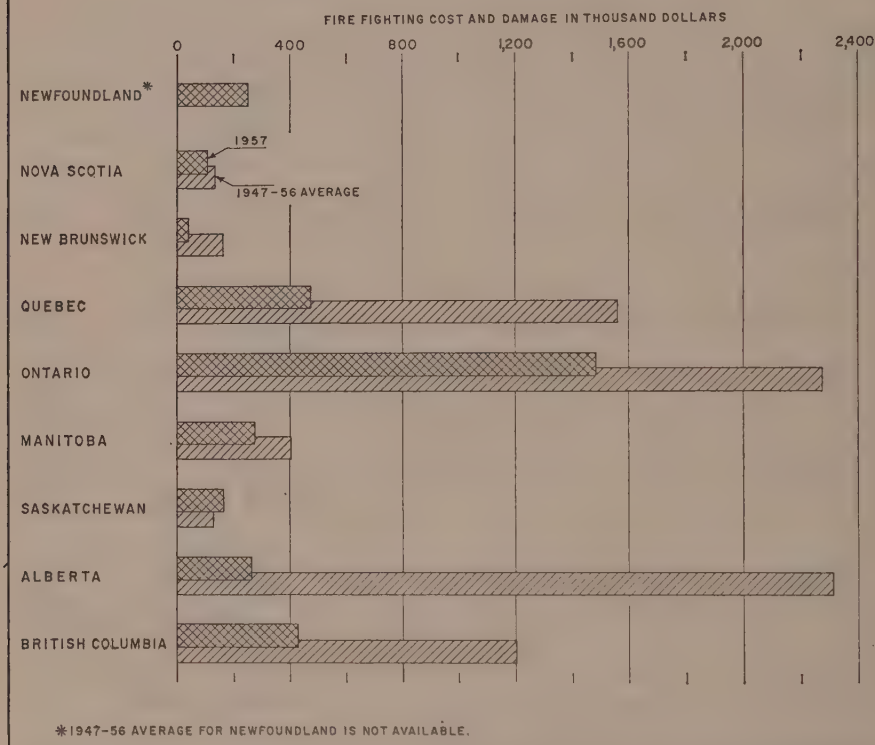
Item	Annual Average 1947-56	1956	1957
Newfoundland—			
Forest fires..... No.	...	106	265
Area burned..... acres	...	2,900	29,000
Fire fighting cost and damage..... \$	...	3,000	255,000
Nova Scotia—			
Forest fires..... No.	268	188	554
Area burned..... acres	10,000	900	11,800
Fire fighting cost and damage..... \$	133,000	93,000	110,000

**5.—Forest Fire Losses, by Province, 1956 and 1957 compared with Ten-Year Average
1947-56—concluded**

Item		Annual Average 1947-56	1956	1957
New Brunswick—				
Forest fires.....	No.	235	153	271
Area burned.....	acres	13,000	1,800	4,700
Fire fighting cost and damage.....	\$	166,000	7,000	41,000
Quebec—				
Forest fires.....	No.	1,101	384	863
Area burned.....	acres	219,300	30,200	71,800
Fire fighting cost and damage.....	\$	1,563,000	696,000	475,000
Ontario—				
Forest fires.....	No.	1,389	989	1,641
Area burned.....	acres	203,500	212,800	46,500
Fire fighting cost and damage.....	\$	2,277,000	4,086,000	1,484,000
Manitoba—				
Forest fires.....	No.	273	332	341
Area burned.....	acres	233,600	522,600	156,400
Fire fighting cost and damage.....	\$	401,000	1,215,000	274,000
Saskatchewan—				
Forest fires.....	No.	142	183	159
Area burned.....	acres	136,000	58,500	47,800
Fire fighting cost and damage.....	\$	129,000	126,000	167,000
Alberta—				
Forest fires.....	No.	184	258	179
Area burned.....	acres	436,300	694,500	15,300
Fire fighting cost and damage.....	\$	2,316,000	9,552,000	264,000
British Columbia—				
Forest fires.....	No.	1,554	2,785	1,539
Area burned.....	acres	265,800	468,100	66,200
Fire fighting cost and damage.....	\$	1,201,000	1,532,000	429,000
Federal Lands—				
Yukon Territory—				
Forest fires.....	No.	40	55	88
Area burned.....	acres	71,000	2,700	116,200
Fire fighting cost and damage.....	\$	117,000	29,000	71,000
Northwest Territories—				
Forest fires.....	No.	58	44	42
Area burned.....	acres	483,000	89,700	334,700
Fire fighting cost and damage.....	\$	310,000	132,000	117,000
National Parks—				
Forest fires.....	No.	32	24	29
Area burned.....	acres	4,500	200	1,300
Fire fighting cost and damage.....	\$	17,000	14,000	13,000
Indian Lands—				
Forest fires.....	No.	45	63	98
Area burned.....	acres	13,700	21,500	1,600
Fire fighting cost and damage.....	\$	37,000	42,000	12,000
Other Federal Lands ¹				
Forest fires.....	No.	4	11	11
Area burned.....	acres	7	14	18
Fire fighting cost and damage.....	\$	300	700	1,300

¹ Includes military areas in 1956 and 1957.

FOREST FIRE LOSSES, BY PROVINCE, 1957 COMPARED WITH 1947-56 AVERAGE



6.—Forest Fires, by Cause, 1956 and 1957 compared with Ten-Year Average 1947-56

Cause	Provinces ¹						Yukon and Northwest Territories			
	Av. 1947-56 ²		1956 ³		1957 ³		1956		1957	
	No.	p.c.	No.	p.c.	No.	p.c.	No.	p.c.	No.	p.c.
Camp fires.....	807	15	692	13	886	15	42	43	47	36
Smokers.....	1,096	21	699	13	1,030	17	10	10	12	9
Settlers.....	538	10	389	7	651	11	2	2	2	2
Railways.....	582	11	1,334	24	904	15	—	—	—	—
Lightning.....	1,048	20	1,171	21	828	14	23	23	46	35
Industrial operations.....	252	5	308	6	281	5	—	—	1	1
Incendiary.....	137	3	115	2	157	3	—	—	2	2
Public works.....	89	2	97	2	206	3	—	—	—	—
Miscellaneous known.....	458	9	522	9	691	12	3	3	3	2
Unknown.....	220	4	159	3	316	5	19	19	17	13
Totals.....	5,227	100	5,486	100	5,950	100	99	100	130	100

¹ Includes federal lands within provincial boundaries.
prior to 1949.

² Newfoundland included.

³ Newfoundland excluded; no records available

Section 4.—Forest Administration, Research and Conservation

Subsection 1.—Federal Forestry Program

Administration.—The Federal Government is responsible for the protection and administration of the forest resources of the Yukon and Northwest Territories and of other federal lands such as the National Parks, forest experiment stations, military areas and Indian reserves. The Federal Government also administers the Canada Forestry Act which provides, among other things, authority for the operation of forest experiment stations and forest products laboratories.

The Act also authorizes the granting of federal assistance to the provinces to enable them to improve the management of their own forests. Under the Federal-Provincial Agreements signed under authority of the Act, seven of Canada's ten provinces have undertaken a forest inventory with federal financial assistance, and six provinces have reforestation agreements. The history of the Federal-Provincial Agreements and their relation to the Canada Forestry Act is described in a special article appearing in the 1956 Year Book, pp. 459-466. In 1957 the Federal Government broadened the implementation of the Canada Forestry Act by providing financial assistance to the provinces for forest fire protection. A total of \$5,000,000, available over a five-year period, may be applied to capital expenditures, such as the cost of fire protection equipment and improvements, and of forest access roads, trails and buildings required for forest fire protection.

The Forestry Branch of the Department of Northern Affairs and National Resources has been continuing work on the aerial forest mapping of federally administered lands and other territories. For example, forest inventory maps have been prepared from air photographs for portions of the Yukon and Northwest Territories and data have been collected on the ground to support the interpretation of the photographs. The development of instrumental aids in forest photography and in interpretation is being continued by this Branch.

Forestry Research.—In the field of forestry the chief responsibility of the Federal Government is to carry out research in problems affecting the forests of Canada and their development, conservation and more effective utilization. To this end, forest research and forest products research facilities have been expanded greatly throughout the country during the past five years. The Forestry Branch of the Department of Northern Affairs and National Resources conducts research in forest economics, silviculture, management, forest ecology, tree physiology, tree breeding, forest inventory methods, forest fire protection, and in forest products. An extensive program of research is under way on the 186 Forest Experiment Stations in operation across the country (*see* p. 15) and on other lands, where an increasing proportion of the research in silviculture and forest management is done in co-operation with provincial forest services and wood-using industries.

Research in forest economics is concentrated on problems associated with the production of wood in the forest, land use, land tenure, taxation, forest legislation and administrative techniques, forest management, forest labour and the valuation of forest lands. Economics research also involves continued study of the broad developments in the forest industries.

Research in silviculture and management is concentrated mainly in (a) assessing the factors responsible for success or failure in securing natural regeneration following practical cutting methods and different treatments of seed beds, (b) comparing different methods of seeding and planting, and (c) determining the effects of different methods of harvest cutting on the development of residual trees and stands. Studies are made of growth and yield and of successional changes in most of the important forest types. Techniques used in mensuration are constantly under review and study; new methods are tested and developed. Application of silvicultural techniques as well as research in regulation of cut and in methods of protection are aimed at determining how forests may be maintained at the highest levels of production. The relationships between forest growth and site are being studied with a view to the assessment of long-term productivity.

The requirements of light and temperature that will produce optimum conditions for growth and development are being determined for the seedlings of many important species of trees. The physiological processes of growth and reproduction are under investigation in a limited number of species. The tree breeding program is directed towards selecting and developing superior strains and improving techniques for propagating new strains through artificial or controlled pollination.

Forest fire protection is a vital problem and is therefore a major concern of federal authorities. In forest fire research the federal Forestry Branch is working towards full co-operation with the provincial forest services in achieving the best methods of forest fire protection. The leading contributions of the Branch have been in the field of fire danger measurement and in the development of equipment and techniques for fire fighting. The more important studies being undertaken at present include development of methods and techniques for classifying fuel types and mapping them, development of methods of rating the severity of fire seasons and of determining the efficiency of fire-protection associations and testing of equipment, such as back-pack tanks and hose, used in fire suppression.

Research in forest inventory methods is of increasing importance because of greatly expanded programs of forest inventories being conducted in most provinces and in the northern territories. Data from air photographs are correlated with field work to develop new techniques of timber estimating, which is being facilitated by the use of stand volume tables. Various methods of field sampling are being investigated and compared. Research is continuing in methods for measuring tree images and tree shadows to determine heights, crown widths, canopy density and other data from photographs taken in different seasons of the year under various conditions. The use of large-scale photography of sample areas is also being investigated and studies are being made in the identification of species and sub-types. Construction of suitable photogrammetric and other scientific apparatus includes equipment required by the forestry tricamera method of air photography which has been developed to provide maximum forestry information at minimum cost, and the shadow height calculator which facilitates the determination of tree heights from shadows in air photographs. Studies in the development and use of new equipment are at present being directed to a considerable extent to testing the application of the relascope and wedge prism as instruments suitable for providing data for inventory purposes and in studies of growth of stands.

Forest Products Research.—The Forest Products Laboratories of Canada, a Division of the Forestry Branch of the Department of Northern Affairs and National Resources, conducts forest products research in its laboratories at Ottawa and Vancouver. This research is aimed at supplying the basic and practical knowledge required for the best possible utilization of Canada's forest resources and the provision of goods of satisfactory quality to the ultimate consumers. Research includes the determination of the physical, mechanical and chemical properties of wood and their relation to adaptability in use; studies of the factors affecting the quality of wood and of manufactured wood products; determination of the factors that cause wood waste in logging and manufacturing; research and investigation on the preservative treatment and painting of wood and on the use of wood for the manufacture of wallboards, alcohol, turpentine, and extractives; studies to determine possible new economic and more valuable uses for woods; and research aimed at determining methods and means for the practical and economical utilization of all wood substance available from the annual timber harvest. Additional work includes the application of laboratory findings to the standardization of lumber grades, development of structural forms and practices, and the improvement of timber specifications in the building codes of Canada. By means of numerous technical publications and through other channels continuous effort is devoted to the widespread dissemination of research results. To assure that research programs are kept abreast of industrial requirements, the Forest Products Laboratories maintain close co-operation with similar organizations in other countries, as well as with the provinces and the forest-based industries generally.

Pulp and Paper Research.—The Pulp and Paper Research Institute of Canada, with laboratories at Pointe Claire and Montreal, Que., is a corporation supported jointly by the Federal Government, the Canadian pulp and paper industry, and McGill University. It carries out research in the whole broad field of pulp and paper processing, from the growth and harvesting of the forests through the various chemical and mechanical manufacturing processes to the properties of end-products, including the improved utilization of both liquid and solid wastes. Further details are given at pp. 474-476.

Forest Biology.—Research on forest insects and diseases is carried out by the Research Branch of the Department of Agriculture which maintains regional laboratories and field stations in all principal forested regions of Canada. The forest insect and disease survey is a Canada-wide project conducted by the Branch in co-operation with the provincial forest services and forest industries, the primary objective of which is to maintain an annual census of forest insect and disease conditions, and to detect and predict the occurrence of outbreaks. Results of the survey are made immediately available to the owners and operators of forest lands for use in planning salvage programs, directing control operations or other measures to reduce damage. An important secondary objective of the survey is extension of knowledge of the insects and fungi affecting forest trees, including their life histories, ranges of distribution and host-parasite relationships.

The research programs of the regional laboratories are designed to lead to comprehensive understanding of the biology and ecology of the more destructive forest insects and fungi, and the causes of fluctuations in abundance or severity of damage in time and place. Problems under intensive study include insect defoliators, leaf diseases, sucking insects, stem cankers, bark- and wood-boring beetles, trunk and root decays, tip- and root-boring insects, and diseases of tree seedlings in forest nurseries. A recent development is the initiation of investigations of virus diseases of forest trees. Laboratory research on development, physiology, nutrition and taxonomy complements the field ecological studies of insects and fungi in the forest environment. Problems of broad national importance in insect pathology, cytology and genetics, bioclimatology and chemical control are investigated by Branch sections which are appropriately staffed and equipped for research in these special fields.

The Research Branch also carries out experiments in control, utilizing cultural techniques, chemicals and biological control agents, including parasites, predators and insect pathogens. Technical advisory services are provided in evaluating possibilities of eradication or control, or other applications of research results. Recent examples include recommendations for reduction of seedling losses in forest tree nurseries through cultural techniques and chemical applications; the co-operative organization of cull surveys to improve forest inventories; consultation with local authorities on the Dutch elm disease problem in New Brunswick, Quebec and Ontario, designed to limit spread and damage through control of the disease vectors and sanitation procedures; and technical co-operation with provincial governments and industrial agencies in the organization of spraying operations against the spruce budworm in New Brunswick and Quebec, and the black-headed budworm and ambrosia beetles in British Columbia.

Subsection 2.—Provincial Forestry Programs

All forested land in provincial territory, with the exception of the minor portions in National Parks, forest experiment stations, military areas and Indian reserves (see Table 2, p. 15), is administered by the respective provincial governments. The forestry program of each province is outlined below.

Newfoundland.—Geographically, the Province of Newfoundland has two separate regions—the Island and Labrador on the mainland. The productive forested land of the Island is estimated at 12,758 sq. miles and of Labrador at 17,747 sq. miles, a total of 30,505 sq. miles. Only 578 sq. miles are classified as farm woodlots. Most of Labrador's forests are leased but are as yet virtually untouched.

A large part of the forests in the interior of the Island are leased, licensed or owned by paper companies, but a three-mile wide belt along most of the coastline is retained as unoccupied Crown land for the purpose of providing firewood, construction material, fencing material, etc., for the local population. Within this coastal forest belt every household has legal right to cut 2,000 cu. feet of wood a year for domestic use. This form of cutting is generally without any control or restrictions but a policy is being introduced whereby cutting in certain 'management areas' is controlled by forest officers.

Commercial timber cutting on unoccupied Crown lands has been by permit since 1952; permits for amounts up to 120 cords per person are issued by the field staff but permits for larger quantities must be approved by the government. The number of large permits varies from 10 to 25 each year and usually cover stands damaged by wind, fire or insects. Unoccupied Crown land is divided into 21 Forest Inspector Districts averaging 281 sq. miles in size. The Island is also divided into three Forest Regions each with a Supervisor who is in charge of Inspectors and is responsible to the Deputy Minister of Resources.

The lack of roads into the remote forests makes fire prevention difficult. Twenty-three well-equipped forest fire depots with radiotelephones are scattered along the coast, and 14 lookout towers, also equipped with radiotelephones, cover a large portion of the forested area. One aircraft, equipped with water-dropping tanks, is stationed at Gander throughout the fire season; it patrols isolated forests and transports fire fighting equipment and crews when necessary. A helicopter is also used at times for this purpose. The forest fire staff, including permanent Inspectors, is approximately 110. The two paper companies maintain their own fire protection organizations.

Forest research for Newfoundland is performed by the Forestry Branch of the federal Department of Northern Affairs and National Resources. No reforestation is done in the province.

Prince Edward Island.—The Forestry Division of Prince Edward Island, formed under the Department of Industry and Natural Resources in 1951, became part of the Department of Agriculture in 1955.

Almost all of Prince Edward Island's woodland is privately owned, so that the Forestry Division is mainly concerned with planting, woodlot management and fire protection. A small nursery has been established jointly with the Federal Government to deal with the Island's needs and many people take advantage of seedlings, supplied by this Division at reasonable cost, to restock barren areas. The Federal Government pays half the cost of reforesting waste lands.

In proportion to its size, Prince Edward Island exports a great deal of pulpwood. This export, combined with the fuelwood and lumber cut each year, led the Forestry Division to inaugurate a program designed to educate the owner in the proper care and management of his woodlot.

Fire protection does not constitute too great a problem. Wooded areas are scattered in patches throughout the province and since a network of roads makes all woodlots accessible, equipment can be brought to the scene of a fire quickly and easily.

Research is limited mainly to reforestation problems and these are studied in the provincial nursery.

Nova Scotia.—Forest administration in Nova Scotia is conducted by the Department of Lands and Forests which, in co-operation with other government agencies, the forest industry and the public, endeavours to protect and rejuvenate provincial forests. The Department employs a professional staff of 25, in addition to a large complement of rangers, surveyors, and fieldmen.

Of the province's total area of 21,425 sq. miles, a recently completed Provincial Forest Inventory classified about 15,080 sq. miles as forested. This inventory excluded Cape Breton Highlands National Park and areas to the north of the Park. Crown holdings constitute only about 20 p.c. of the province's total area.

An active reforestation program has been encouraged since 1926. Each year, seedlings from the forest nurseries are transplanted to burned-over areas of Crown lands. Conservative cutting is promoted through the requirements of the Small Tree Conservation Act. Standing timber on Crown lands is offered for sale through public tender, and logging is supervised by the District Foresters of the Department of Lands and Forests.

Responsibility for the forest fire control program rests with the same Department. Fire prevention messages are presented through the media of the press, radio and television. Early warning of fires is facilitated by a detection system consisting of 27 towers, five of them privately owned, and an aerial patrol. Integration of the detection system and the suppression force is aided by radio and telephone communications. Three experienced fire suppression crews located at strategic places as well as local fire ranger personnel are available to fight fires. Equipment is supplied from caches and depots established throughout the province.

Access roads into Crown land timber areas are being constructed under Dominion-Provincial Agreements. These are valuable for protection purposes as well as for management programs.

The forest industry consists of about 600 sawmills, one pulp and paper mill, and two pulp mills. Establishment of a third pulp mill is now being surveyed and studied. Together with the pulpwood export trade, pit prop production, and the box and barrel industry, these mills account for the major part of the annual wood use, equivalent to about 1,375,000 cords.

Forest research is conducted by Federal Government agencies and the Nova Scotia Research Foundation. Investigations concern stand improvements, cutting and manufacturing methods, production efficiency and costs in sawmilling, regeneration, insect and disease activities, and tree physiology.

New Brunswick.—More than 80 p.c. of the area of New Brunswick is classed as productive forest of which the Crown, in right of the province, owns about 40 p.c. About 2 p.c. is owned by the Federal Government and the remainder is privately owned. A provincial inventory, part of the national forest inventory, is under way, the results of which will indicate the nature and extent of the forests of the province. The productive forest area is estimated at 23,808 sq. miles and the total volume of wood in merchantable sizes at 16,900,000,000 cu. feet; of the latter, coniferous species make up 71 p.c. and deciduous species 29 p.c. The New Brunswick Forest Development Commission in its report submitted in June 1957 indicated that production of forest industries could be doubled in value within two decades and recommended sweeping changes in provincial government policy.

Protection from forest fires, the first requirement for forest conservation, is mainly the responsibility of the Forest Service which also carries out duties in connection with game protection, colonization and the administration of provincial Crown lands. A large-scale aerial spraying program to protect balsam fir and spruce from the spruce budworm has been carried on since 1952 by a Crown company sponsored by the federal and provincial governments and representatives of the forest products industries.

Timber licences issued by the province authorize operators to cut and remove forest products in accordance with forest management plans and cutting permits. Stumpage dues are paid to the province when products are cut by the licensees.

New Brunswick does not maintain a provincial forest research organization. There is, however, extensive co-operation between the province and the federal Forestry Branch in conducting forest research. The University of New Brunswick also has undertaken a small number of forest research projects in co-operation with the National Research Council, the Provincial Government, and other interested institutions.

Quebec.—The commercial forests of the Province of Quebec cover an area of 220,275 sq. miles extending from its southern borders to latitude 52° north, between the frontier of Labrador in the east, and the Eastmain River Basin in the west. Of this total, 88,023

sq. miles are classed as occupied productive forest land, 21,842 sq. miles of it privately owned, 225 sq. miles federal Crown forests and the remainder provincial Crown land on which leases and permits have been granted. Approximately 132,000 sq. miles of the latter are vacant lands. About two-fifths of the annual cut in the forests of Quebec comes from privately owned lands.

The limits reserved for forest industries are administered by the Department of Lands and Forests and the technical work such as inventory, reforestation, superintendence of cutting, control of culling, verification of plans for development, collecting of stumpage dues, etc., is the responsibility of the Forest Service. These limits are either leased by auction after public notice has been given, or assigned under a special law. The price of the licence is fixed by auction or by Order in Council subsequent to specific legislation. The government reserves the right to dispose of the water powers situated on the limits leased.

A tree-felling permit, which is valid for one year, is renewable if the holder has complied with the conditions imposed; it may be transferred with the authorization of the Minister of Lands and Forests. The lessee of a limit must pay a ground rent in addition to the price of licence and must forward, three months before the cutting begins, a plan of the operations. Wood cut must be measured by a licensed culler and at the end of the operations the limit-holder must produce a sworn statement of quantities cut.

The Forest Service endeavours to promote the use of silvicultural methods among the owners of wooded farm lots and small forest areas.

Quebec's forest protective system comprises three organizations: the Protective Service, the protective associations and the non-affiliated lease holders or owners. The Protective Service is a government body established within the Department of Lands and Forests in 1924 to enforce legislation and regulations governing forest fire protection and to protect vacant Crown lands, township reserves and colonization territories. The protective associations, of which there are six, are syndicates of lease holders and owners who have availed themselves of their right to form an association to satisfy the law which compels them to protect their limits or private forests of 2,000 acres or over. Members assume operating expenses in proportion to the area owned by each but the Department assumes half the costs of fire fighting incurred by the associations. The third group is composed of lease holders and of owners who prefer to discharge their obligations personally as far as forest protection is concerned. They enjoy the same privileges and their obligations are the same as those imposed upon the associations.

To perpetuate the forestry program of the province, the Department has established a number of nurseries, the first at Berthierville in 1908. This nursery has three sections: one wooded with a variety of valuable species of mature age, one serving agricultural purposes, and another devoted to forestry experiments and the cultivation of trees for reforestation or ornamentation. More recently the Grandes Piles nursery and the Gaspé nursery were organized and there are also nurseries in the following counties: Abitibi-East, Témiscamingue, Saguenay, Îles de la Madeleine, Rimouski, Roberval, Rivière du Loup, Témiscouata and Chicoutimi. Their object is the preparation of plants for reforesting nearby districts. 'Floating' nurseries supervised by the engineers of the Forest Extension Bureau and intended especially for growing reforestation plants for private properties, are located at Pont Rouge, Sherbrooke, Scott, St. Hyacinthe, Victoriaville and Mont Joli. The plants are supplied free of charge on request. A dynamic reforestation program is now under way in the province, with an ultimate objective of 10,000,000 plants yearly on private grounds.

The Bureau of Silviculture and Botany and the Forestry Products Laboratory, both subsidized by the Department, are actively engaged in scientific research work in the forestry field. The Bureau studies the possibilities of utilizing spoil-heaps of gold and asbestos mines, tests the fertility of soils in the spruce groves, classifies forests according to type of vegetation, and studies growth and yields of stands in the timber limits by means of permanent research spots. The Forestry Products Laboratory, located at the Duchesnay Forestry Station, examines developments in the field of chemical conversion of wood and in the use of forestry by-products.

Ontario.—Accumulative improvements in organization and technical advances in forest management and forest protection have been achieved under the long-term policy of the Ontario Department of Lands and Forests. The object within view is a permanent balance between forest growth and forest harvesting—a high, sustained yield of forest products in perpetuity. The immediate benefits of the long-range programs are represented by the improvement in fire control. Although, because of increased forest travel by sportsmen and summer vacationers, there was a large increase in the number of fires in 1957—1,641 as compared with an annual average of 1,389 in the preceding ten years—the area destroyed was limited to 46,500 acres compared with an average during the preceding ten years of 203,500 acres, a reduction from 147 to 28 acres per fire.

Most of the forest fires (85 p.c.) were caused by human carelessness, but the value of timber destroyed on Crown lands in 1957 was estimated at only \$463,000 (\$2,870,000 in 1956), this relatively low amount being apparently the result of continuing improvement in fire detection and suppression. Over 300 lookout towers are supplemented by aerial patrols and hundreds of two-way radios provide efficient communications. Land, water and air transport permit rapid concentration of trained fire fighting crews well supplied with modern equipment, much of it developed within the Department. An important innovation during the past year was the dropping of water from aircraft to check fires.

With improved protection against fires, insects and diseases, greater benefits are expected from the increasing rate of reforestation. During the year ended Mar. 31, 1958, 9,500,000 nursery-produced forest trees were planted on Crown lands, 4,500,000 were planted on areas managed in co-operation with municipalities and conservation authorities, and 12,500,000 were supplied to private land owners. With the expansion of five nurseries and the development of eight new nurseries, production is expected to reach 60,000,000 trees by 1962 or 1963.

An important part of the Ontario program is the stimulus given to natural regeneration of forest trees. New developments include the improvement of the forest seed bed; cutting methods that increase the natural seed supply and promote survival of seedlings; and herbicides which are sprayed from aircraft to free valuable young conifers from the competition of worthless shrubs. After ten years of experimentation, scientists in the Department's Division of Research have developed a white pine that is expected to be highly resistant to the blister rust disease. A fast-growing hybrid of poplar and aspen has also been developed. Many more investigations of tree strains, diseases, pests and soils are being continued.

To place Crown forest lands directly under professional management, 81 Crown Management Units have been formed (as of Mar. 31, 1958). Special mention may be made of the Petawawa Management Unit as the first of a series of projects to rehabilitate the pineries of the Ottawa-Huron area. In various districts, advanced forestry is being practised in pilot units to develop procedures and train personnel for 'stand' improvement all across the province.

In addition, master plans for areas totalling 85,000 sq. miles have been received from industrial licensees whose management operations and cutting practices are subject to governmental approval. Mills are limited to a size proportionate to the raw material readily available; the maximum cut allowed any unit in one year is 85,000,000 feet. Crown timber dues have increased steadily from \$11,396,460 in 1952 to \$14,431,008 in the year ended Mar. 31, 1958.

Under agreements with 107 large operators (over 50 sq. miles) and 316 smaller operators, wasteful practices are defined and prohibited. The integrated operations now required ensure that no part of the tree is wasted—a telephone pole, a railway tie, a mine timber, pulpwood and other products may all come from the same tree.

Looking ahead to the expanded forest regeneration program of the coming years, the majority of licensees have promised their co-operation in following Departmental standards and specifications. The approximately 300 foresters employed by private industry in Ontario will materially assist Departmental foresters (who now number 182) in the continuous improvement of provincial forests.

Manitoba.—The forests of Manitoba are administered by the Forest Service, a Branch of the Department of Mines and Natural Resources. The Service is headed by a Provincial Forester and the province is divided into four Forest Districts—Northern, Southern, Eastern, and Western—each with a District Forester in charge. The Whiteshell Forest Reserve, which is an important recreational area, is also supervised by a Forester. Each Forest District is subdivided into Forest Ranger Districts of which there are 40, each in charge of a Forest Ranger.

The cutting of mature timber is governed by timber sale, licensed timber berth, pulpwood lease, or timber permit. Timber sales are disposed of by public auction and cover periods of from one to seven years; timber berths cover certain areas granted before 1930, the date of the transfer of the natural resources from the Federal Government to the province; pulpwood leases are granted over an area of 2,748 sq. miles; and timber permits are granted to settlers and small operators at appraised rates for a period of one year or less.

An inventory of the forest resources of the province was completed in 1956 as part of the conservation plan. On the basis of this inventory and other information, working plans with annual allowable cuts on a sustained-yield basis have been brought into operation in the more accessible areas.

Fire protection, also part of the conservation plan, is one of the most important activities of the Forest Service. Fires are detected by air patrol, lookout tower and road patrol and rapid communication is maintained within the Service by radio and telephone. The Air Service transports men and equipment to fires in areas beyond the reach of roads. The main air base is at Lac du Bonnet and summer air bases are maintained at The Pas, Norway House and Thicket Portage. The total area under fire protection is about 97,000 sq. miles.

Regeneration of the forest is mainly dependent on natural means although 4,000,000 trees were planted during the past five years as part of the Federal-Provincial Agreement (see p. 465). The Pineland Forest Nursery is operated at a point near Hadashville to supply planting stock for denuded areas of Crown land and to furnish farmers with shelter-belt and woodlot seedlings.

The province has no forestry research organization but co-operates with several federal services which maintain two research areas.

The Department of Natural Resources Conservation Branch distributes information covering all aspects of the Department's resource management programs. A large part of the Branch work, particularly during the summer, is devoted to publicizing the activities of the provincial forest management program. Film and lecture tours are conducted, pamphlets distributed and training and assistance for field staff provided, all with the objective of making the public aware of the great value of the provincial forests, and of the need for their wise use and protection.

The Department of Natural Resources co-operates fully with federal authorities in investigating and controlling forest damage resulting from insects and diseases.

Saskatchewan.—The forests of Saskatchewan cover 117,750 sq. miles, or 54 p.c. of the total land area of the province. The provincial forests, which account for 88 p.c. of the total forest land, are administered by the Forestry Branch of the Department of Natural Resources, under authority of the Forest Act. It is the responsibility of the Forestry Branch to devise policy that will regulate all phases of forest activity so that the people of Saskatchewan may benefit from this resource in perpetuity. Cutting of white and black spruce and jack pine timber on Crown land for commercial purposes is the exclusive right of the Saskatchewan Timber Board, a Crown corporation.

The policy determined by the six divisions of the Forestry Branch—Administration, Fire Control, Inventory, Management, Silviculture and Research—is carried out on a regional basis under the supervision of a regional superintendent who is directly responsible to the Regional Administration Branch of the Department of Natural Resources. This Branch implements the policies conceived by program branches such as the Forestry

Branch. However, the Forestry Branch provides liaison between the Administration and the Regions for implementation of new forest practices and procedures and assesses the results.

The detection, suppression and prevention of forest fires is the responsibility of the Fire Control Division of the Forestry Branch. The Division maintains a network of 85 lookout towers equipped with two-way radio facilities. In periods of high hazard, four aircraft are kept on constant patrol over areas not under tower surveillance.

To aid conservation, the great expanse of forest area has been divided into smaller, more accessible units. A system of roads and fire guards has been developed to facilitate movement of fire fighting personnel and allow the caching of fire fighting tools at strategic locations in the forests, as well as at conservation officers' headquarters. Standby crews are ready to move quickly and heavy equipment is available when needed; a group of 16 fire fighters, organized in 1948, is maintained primarily to parachute on fires in remote areas, and to combat the blaze until other personnel can reach them.

Alberta.—The 161,473 sq. miles of provincial forests in Alberta are administered by the Forests Division of the Department of Lands and Forests at Edmonton. The Division is composed of five forestry Branches under a Director of Forestry: Administration, Forest Protection, Forest Management, Forest Surveys, and Radio.

The Administration Branch supervises all branches, maintaining general control over revenue and expenditure, deals with personnel and conducts a Forestry Training School which offers in-service training for forest officers and other employees.

Protection of the forests is in the charge of the Forest Protection Branch and all field personnel. For ease of administration, the forested area has been divided into seven Divisions, each responsible for the forest within its boundary. These Divisions in turn are composed of Ranger Districts in which all activities are supervised by the district forest officer responsible to his divisional superintendent. The divisional staffs include an assistant clerk, radio technician, radio operator and seasonal help such as lookout-men, standby fire fighting crews and labourers. These employees are responsible for fire prevention, detection and suppression and the supervision of logging and milling operations, timber cruising, and construction and maintenance of forestry projects.

Timber matters dealt with by the Forest Management Branch include setting the standard of timber, setting and supervising methods of cutting, ensuring efficient operation of mills, collection of Crown dues, and implementation of forest management plans. Much of the field work in connection with these duties is accomplished through the divisional staffs.

The Forest Surveys Branch is the technical forestry branch and its main charges include forest management planning, the forest inventory, and forest cover map-making for timber sale and fire damage evaluation purposes. Temporary cutting control plans have been completed for those areas south of the 57th parallel, and management plans are being prepared for the Slave Lake region. All timber will eventually be disposed of according to management plan under a system of sustained yield.

Development and maintenance of communications is the function of the Radio Branch. Central stations are maintained at Edmonton and Calgary with smaller stations located at divisional headquarters, lookout towers and Ranger Districts. A number of portable and mobile stations located in forest divisions form a comprehensive communications network.

Conservation of 9,000 sq. miles of forest comprising the Rocky Mountains Forest Reserve is administered by a joint provincial-federal agency, the Eastern Rockies Forest Conservation Board with offices at Calgary (*see* p. 108). The area is composed of three forests which are subdivided into Ranger Districts. The Superintendent in charge of each forest is responsible to the administrative officer in Calgary; his decisions are based on policies formed by the Board which comprises one federal and two provincial members. This Reserve includes the headwaters of the main prairie river system.

Research in general is carried out by the Forestry Branch of the federal Department of Northern Affairs and National Resources (which maintains the Kananaskis Experiment Station) and by the Science Service of the federal Department of Agriculture.

British Columbia.—The productive forest land of British Columbia in 1958 was inventoried at 208,411 sq. miles and in addition there were 5,154 sq. miles of forest land classed non-productive. Of the productive area, immature timber occurred on 95,739 sq. miles; 84,275 sq. miles carried matured timber with a total volume of 318,000,000,000 cu. feet; 28,397 sq. miles, including areas of recent burn, cut-over or windfall not yet re-stocked, were unclassified.

For administrative purposes, the province is divided into five Forest Districts with regional headquarters at Vancouver, Prince Rupert, Prince George, Kamloops and Nelson. Further decentralization of authority is effected by subdivision of the Forest Districts into Ranger Districts. There are approximately 25 Ranger Districts in each Forest District. Twelve directional, servicing, or policy-forming divisions constitute the head office of the Forest Service at Victoria.

Vigorous efforts are being made to bring British Columbia's forest resources under sustained-yield management and the forest industries are making definite progress toward total utilization of their raw materials. The problem is urgent despite the fact that, with a present annual cut of approximately 1,100,000,000 cu. feet, the total inventory would appear sufficient to support present needs in perpetuity. More than one-half of the present cut comes from the Coast (Wet Belt) forests which also comprise the majority of the privately owned, leased or licensed forests. This area is being overcut at the present time, whereas large areas of northern forest land remain untouched.

Several systems of timber disposal are in effect. The most publicized is the Tree Farm Licence which constitutes a contract between the government and a company or individual whereby the latter agrees to manage, protect and harvest an area of forest land for the best possible return, in exchange for the right to the timber crop on the area in perpetuity. Provincial Forests, Public Working Circles, and Sustained Yield Units are the governmental equivalent of the Tree Farm Licence with the timber, when it is ready for cutting, being disposed of by public auction. Management, silviculture, road-building and protection on such areas are the responsibility of the Forest Service. Other tenures of lesser importance are Tree Farms, Farm Woodlot Licences, and Timber Sales.

Protection of the forest, particularly from fire, is still a major problem although the public is becoming more cautious. Improved fire fighting techniques, the use of aircraft for patrol and transportation, employment of helicopters, and a gradually expanding system of lookouts were steadily cutting down fire losses until the disastrous 1958 fire season, which was the worst on record. Close liaison with the Science Service of the federal Department of Agriculture, which maintains laboratories in Vernon and Victoria, provides information about insect and fungal enemies of the forest.

Subsection 3.—The Pulp and Paper Research Institute of Canada*

The Pulp and Paper Research Institute of Canada is a centre of research and learning concerned with virtually every aspect of the production and use of pulp and paper products. It was established in 1913 as a branch of the Dominion Forest Products Laboratories and in 1927 was re-organized under the joint sponsorship of the Canadian Pulp and Paper Association, the Federal Government and McGill University. The Institute staff carries out applied research in the fields of woodlands operations and pulp and paper mill operations, and fundamental research in support of these fields. The graduate students work towards master's and doctorate degrees in physical chemistry, wood chemistry, chemical and mechanical engineering and postgraduate students are trained in fundamental research

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fields of interest to the pulp and paper industry. The Institute has, since 1927, occupied a building on the McGill campus erected by the pulp and paper industry and in 1958 a new building was completed at Pointe Claire on the western outskirts of Montreal by the Government of Canada in lieu of its annual financial grants. The building cost \$2,225,000 and houses Institute staff and facilities formerly located in temporary quarters. One wing contains laboratories typical of a college chemistry building, another wing contains laboratories for engineering research, and a third provides administrative offices. Facilities include laboratories for pulp and paper testing and for chemical, physical, radio-chemical, chemical engineering and mechanical engineering research including: hydraulics; a pilot plant for chemical pulping, pulp and chip refining, and waste liquor pyrolysis; a library on pulp and paper and related subjects; photographic and microscopic services; and a woodlands research department. At present the Institute has a permanent staff of about 160.

The Institute's research activities comprise a basic program, contract research, and technical services. The basic program is supported by assessments from the Maintaining Membership (some 40 companies, representing more than 100 mills and about 90 p.c. of the total production of the Canadian industry), by a basic grant from the Canadian Pulp and Paper Association, and by appropriations from McGill University (primarily for student work). It comprises research of interest to the industry broadly, as distinct from that which is the concern only of a single company or of a small segment of the industry.

The projects in the basic program range from studies of the growing seedling in the forest to the converted pulp and paper product. The emphasis, however, is primarily on fundamental and exploratory studies. The Institute is regarded as a centre for broad long-range and uninterrupted studies of basic principles which individual pulp and paper companies would find difficult to justify in terms of immediate applied objectives. Moreover, the Institute is a centre of highly specialized equipment and manpower which individual companies would not be in a position to keep occupied on a continuous basis.

In addition to its permanent staff, the Institute, in co-operation with McGill University, has some 25 graduate students working on fundamental projects in the background of pulp and paper technology, which also serve as their thesis topics. The head of the Institute's Wood Chemistry Division, who is also the E. B. Eddy Professor of Industrial and Cellulose Chemistry at McGill, directs graduate student work on such subjects as the behaviour of the materials of which wood is made—cellulose, lignin, resins, sugars, and other carbohydrates. The head of the Institute's Physical Chemistry Division, also a Research Associate in the McGill Chemistry Department, directs graduate student work in the physical chemistry of fibres, e.g., the forces which cause cellulose fibres in a water suspension to mat together to form paper. The head of the Institute's Chemical Engineering Division, also Associate Professor of Chemical Engineering at McGill, directs graduate students in such chemical and mechanical studies as the friction losses occurring when pulp flows through pipelines.

The Institute also undertakes contract research projects for individual companies or groups of companies in the pulp and paper or allied fields. The larger of these co-operative contracts have been concerned with problems of particular segments of the Canadian pulp and paper industry, such as the investigation into the causes of corrosion in alkaline pulping equipment, and the current project investigating the rapid deterioration of paper machine wires.

A further function of the Institute is to provide a broad range of technical information services to the industry and, to some extent, to other industries and the public. It maintains a specialized library for this purpose which supplies bibliographies, abstracts, translations, and critical reviews to the scientific staff and the industry.

In addition to its own program, the Institute co-operates with outside agencies in special projects. It maintains close liaison with the National Research Council and, in the past, has carried out joint projects with the Applied Chemistry Division and other Divisions of that organization. The researches it conducts fall generally into six broad classifications: mechanical pulping, chemical pulping, paper making, process control, waste utilization, and woodlands research.

Section 5.—Forest and Allied Industries

This Section is concerned with the many industries employed in the felling of timber in the forest and its transformation into the numerous utilitarian shapes and forms required in modern living. The basic industries provide the raw material for sawmills, pulp and paper mills and for a wide range of secondary industries that convert the products of the basic industries into more highly manufactured goods such as veneers and plywoods, sash and doors, furniture, and a vast range of industries using wood in any form in their processes. These industries, especially the pulp and paper industry and the lumber industry, contribute substantially to the value of the export trade of Canada and thereby provide the exchange necessary to pay for a large share of the imports purchased from other countries, particularly the United States.

Subsection 1.—Woods Operations

In connection with operations in the woods, the forests provide not only the raw materials for the sawmills, pulp mills, veneer mills, wood distillation, excelsior and other plants, but also the logs, pulpwood and bolts for export in the unmanufactured state, and fuel, poles, railway ties, posts and fence rails, mining timber, piling and other primary products that are finished in the woods ready for use or export. A number of minor forest products help swell the total, such as Christmas trees, cascara bark, balsam gum, resin, etc.

Estimates of woods operations attempt to give *actual* production figures for all items and are based chiefly on provincial Forest Service data for volume. Value, as presently estimated, excludes transportation costs, which formed a large part of the consumption values utilized in former calculations.

7.—Value of Woods Operations, by Product, 1952-56

Product	1952	1953	1954	1955	1956
	\$	\$	\$	\$	\$
Logs and bolts for sawing.....	344,932,434	331,296,157	345,067,657	393,860,833	443,888,332
Logs for pulping.....	28,810,263	28,748,017	33,359,100	38,985,790	33,581,745
Pulpwood ¹	317,991,822	280,263,133	290,441,378	330,490,498	385,889,223
Fuelwood.....	33,277,041	38,558,073	36,075,799	34,361,586	37,097,923
Poles and piling.....	15,497,530	10,705,142	9,833,897	17,082,451	23,219,870
Round mining timber.....	12,208,221	4,665,279	3,998,158	3,432,932	3,615,647
Fence posts.....	2,007,683	1,821,996	1,590,369	2,071,988	2,286,222
Hewn ties.....	1,160,020	880,604	468,485	627,082	626,481
Fence rails.....	274,413	246,165	243,611	248,359	292,183
Wood for distillation.....	441,538	361,523	442,381	370,947	487,847
Miscellaneous roundwood.....	518,482	411,788	301,501	408,275	130,445
Other products.....	6,069,598	6,581,011	6,547,571	7,631,973	8,026,684
Totals.....	763,188,754	704,538,888	728,369,907	829,572,714	939,142,602

¹ Roundwood only; wood residues used for pulping excluded.

8.—Production and Consumption of Wood Cut in Woods Operations 1945-56, and by Product 1955 and 1956

Year and Product	Production			Consumption		
	Quantity Reported or Estimated	Equivalent Volume of Merchantable Wood ¹	Total Value	Quantity Reported or Estimated	Equivalent Volume of Merchantable Wood ¹	Total Value
		M cu. ft.	\$		M cu. ft.	\$
1945.....	...	2,692,200	364,237,406	...	2,280,028	294,169,952
1946.....	...	2,821,935	435,706,186	...	2,430,609	359,840,731
1947.....	...	3,104,214	559,821,333	...	2,603,181	461,009,040
1948.....	...	3,069,265	579,014,983	...	2,631,388	513,622,093
1949.....	...	2,685,917	491,987,414	...	2,607,465	503,320,008
1950.....	...	3,023,465	613,045,910	...	2,761,909	558,104,116
1951.....	...	3,436,463	821,021,875	...	2,922,883	698,113,030
1952.....	...	3,205,383	763,188,754	...	2,834,719	705,980,443
1953.....	...	3,078,066	704,538,888	...	2,903,661	705,452,273
1954.....	...	3,122,313	728,369,907	...	2,924,832	693,755,990
1955.....	...	3,280,070	829,572,714	...	3,093,255	746,954,072
Logs and bolts for sawing.....M ft. b.m.	8,194,023	1,563,135	393,860,833	8,385,763	1,598,202	345,000,352
Logs for pulping....."	874,513	153,040	38,985,790	2	2	2
Pulpwood.....cord	14,287,481	1,214,436	330,490,498	13,629,413	1,158,500	340,076,962
Fuelwood....."	3,623,387	289,872	34,361,586	3,610,099	288,808	34,219,666
Poles and piling.....No.	1,345,258	20,181	17,082,451	1,195,057	17,926	19,716,100
Round mining timber.....cord	199,412	18,943	3,432,932	127,500	12,112	2,358,750
Fence posts.....No.	8,922,355	10,709	2,071,988	7,193,627	8,632	1,248,535
Hewn ties....."	371,135	1,855	627,082	235,168	1,176	364,289
Fence rails....."	1,714,187	1,714	248,359	1,714,187	1,714	251,134
Wood for distillation.....cord	34,626	2,770	370,947	34,626	2,770	370,947
Miscellaneous roundwood...cu. ft.	3,415,000	3,415	408,275	3,415,000	3,415	408,275
Other products ²\$	...	...	7,631,973	...	...	2,939,062
1956.....	...	3,463,304	939,142,602	...	3,083,626	813,590,871
Logs and bolts for sawing.....M ft. b.m.	8,505,544	1,625,633	443,888,332	8,105,345	1,550,193	362,120,285
Logs for pulping....."	746,261	130,696	33,581,745	2	2	2
Pulpwood.....cord	15,932,911	1,354,298	385,889,223	14,031,855	1,192,708	369,263,043
Fuelwood....."	3,622,161	289,771	37,097,923	3,606,858	288,549	40,534,622
Poles and piling.....No.	1,617,115	24,258	23,219,870	1,504,418	22,566	33,140,817
Round mining timber.....cord	207,820	19,743	3,615,647	137,514	13,064	2,544,009
Fence posts.....No.	9,006,307	10,808	2,286,222	6,958,045	8,350	2,116,792
Hewn ties....."	387,596	1,938	626,481	387,596	1,938	626,481
Fence rails....."	1,826,338	1,826	292,183	1,826,338	1,826	292,183
Wood for distillation.....cord	41,790	3,343	487,847	41,790	3,343	529,637
Miscellaneous roundwood...cu. ft.	1,090,000	1,090	130,445	1,089,000	1,089	143,513
Other products ²\$	...	...	8,026,684	...	...	2,279,489

¹ In estimating the annual drain on Canada's forest resources, certain converting factors have been used, each of which represents in cubic feet the quantity of merchantable wood used to produce one unit of the material in question. The factor for logs and bolts for the British Columbia coastal region is 175 and for the remainder of Canada 200. Other factors: pulpwood 85, fuelwood and wood for distillation 80, poles and piling 15, round mining timber 95, hewn railway ties 5, fence posts 1.2 and fence rails 1.

² Converted to rough cords and included with pulpwood.

³ Chiefly Christmas trees but also includes balsam gum, cascara bark, etc.

**9.—Equivalent Volume of Solid Wood Cut and Value of Products of Woods Operations,
by Province, 1954-56**

Province or Territory	Equivalent Volume of Solid Wood			Value of Products ¹		
	1954	1955	1956	1954	1955	1956
	M cu. ft.	M cu. ft.	M cu. ft.	\$	\$	\$
Newfoundland.....	99,880	112,392	104,987	24,251,832	28,049,693	26,666,704
Prince Edward Island..	9,052	11,259	10,314	1,429,633	1,957,548	1,836,683
Nova Scotia.....	101,422	118,588	111,202	20,725,058	24,745,766	24,620,801
New Brunswick.....	175,948	202,645	258,562	40,593,071	45,929,729	63,429,344
Quebec.....	1,004,188	984,111	1,074,032	239,719,810	249,500,953	288,667,504
Ontario.....	497,261	542,031	547,354	122,759,430	144,476,972	153,272,745
Manitoba.....	62,035	56,646	67,215	9,940,925	9,486,023	13,193,020
Saskatchewan.....	65,326	55,225	58,184	8,010,511	7,496,533	9,280,200
Alberta.....	107,237	113,511	114,689	14,871,081	16,801,055	18,234,424
British Columbia.....	996,064	1,080,758	1,109,919	245,400,223	300,614,307	338,671,970
Yukon and N.W.T.....	3,900	2,904	6,846	668,333	514,135	1,269,207
Canada.....	3,122,313	3,280,070	3,463,304	728,369,907	829,572,714	939,142,602

¹ Includes value of forest products other than wood.

Subsection 2.—The Lumber Industry

The manufacture of sawn lumber is the second most important industry in Canada depending on the forest for its raw materials.

The total number of sawmills, tie, shingle, lath, veneer, stave, heading and hoop mills and mills for cutting-up and barking or rossing of pulpwood, reports of which were compiled for 1956, was 6,629 as compared with 7,333 in 1955. Mills sawing less than 15,000 ft. b.m. are excluded but account for less than one-half of one per cent of the total lumber production. Employees numbered 57,078 and wages and salaries amounted to \$153,809,204. Logs, bolts and other materials and supplies of the industry were valued at \$350,745,728, the gross value of production was \$639,414,360 and net value \$279,710,804.

Lumber production in Canada reached its maximum in 1955 at 7,920,033,000 ft. b.m. decreasing to 7,739,603,000 ft. b.m. in 1956. Average value of lumber produced increased almost steadily from a low point in 1933 to 1951; decreases in the next three years of 2.8 p.c., 4.7 p.c. and 1.5 p.c., respectively, were followed by increases of 2.6 p.c. and 1.9 p.c. in 1955 and 1956.

**10.—Quantity and Value of Lumber Production and Value of All Sawmill Products,
by Province, 1955 and 1956**

Province or Territory	Lumber Production				Value of All Sawmill Products	
	Quantity		Value		1955	1956
	1955	1956	1955	1956	1955	1956
	M ft. b.m.	M ft. b.m.	\$	\$	\$	\$
Newfoundland.....	32,691	31,091	1,996,166	1,906,268	2,114,437	2,050,109
Prince Edward Island..	9,610	7,490	534,194	431,099	593,050	510,451
Nova Scotia.....	353,682	285,636	21,309,769	17,716,502	23,057,289	19,318,842
New Brunswick.....	275,186	281,028	17,807,953	18,932,343	20,751,935	22,372,097
Quebec.....	1,025,094	1,177,515	69,545,538	83,646,138	81,381,163	96,712,360
Ontario.....	759,976	770,745	58,654,467	62,659,801	69,872,231	74,668,714
Manitoba.....	46,627	31,244	2,694,833	1,888,911	3,080,222	2,185,348
Saskatchewan.....	75,233	48,838	4,125,631	2,355,911	4,339,875	2,519,096
Alberta.....	421,616	356,758	22,288,596	18,324,109	23,853,097	20,503,303
British Columbia.....	4,914,285	4,734,970	342,058,910	330,763,639	414,944,542	397,934,856
Yukon and N.W.T.....	6,033	8,288	487,184	636,906	495,149	639,184
Canada.....	7,920,033	7,739,603	541,563,241	539,261,627	644,482,990	639,414,360

11.—Quantity and Value of Lumber Cut, by Kind, 1955 and 1956

Kind of Wood	Quantity		Value	
	1955	1956	1955	1956
	M ft. b.m.	M ft. b.m.	\$	\$
Spruce.....	2,550,070	2,477,195	153,821,722	153,254,447
Douglas fir.....	2,270,468	2,084,501	158,796,587	147,294,419
Hemlock.....	994,138	968,274	67,043,585	65,280,039
White pine.....	413,741	415,881	36,329,352	37,521,903
Cedar.....	523,382	507,844	47,714,814	46,053,016
Yellow birch.....	137,406	175,056	11,867,871	16,016,714
Jack pine.....	252,245	265,696	15,196,082	16,468,100
Maple.....	95,787	126,353	8,353,541	11,203,381
Balsam fir.....	223,841	217,885	13,597,112	13,328,451
Red pine.....	45,153	52,020	3,791,228	4,623,992
Other kinds.....	413,802	449,398	25,051,347	27,617,165
Totals.....	7,920,933	7,739,603	541,563,241	539,261,627

12.—Quantity and Value of Lumber, Shingles and Lath Produced, 1947-56

NOTE.—Figures from 1908 are given in the corresponding table of previous Year Books beginning with the 1931 edition.

Year	Lumber		Shingles		Lath	
	Quantity	Value	Quantity	Value	Quantity	Value
	M ft. b.m.	\$	squares	\$	'000	\$
1947.....	5,877,901	322,048,356	3,107,248	24,449,305	151,151	1,239,824
1948.....	5,908,798	340,850,538	3,078,215	24,470,746	149,646	1,338,534
1949.....	5,915,443	334,789,873	2,825,261	19,568,633	129,895	1,136,208
1950.....	6,553,398	422,480,700	3,191,589	31,807,753	123,118	1,134,741
1951.....	6,948,697	507,650,241	2,982,362	27,977,418	104,872	1,042,196
1952.....	6,807,594	483,195,323	2,424,818	19,269,747	111,595	1,237,227
1953.....	7,305,958	494,385,993	2,610,068	19,897,877	155,595	1,686,581
1954.....	7,243,855	482,912,005	2,710,654	24,039,162	140,655	1,512,400
1955.....	7,920,033	541,563,241	2,896,080	29,795,687	149,663	1,613,497
1956.....	7,739,603	539,261,627	2,798,599	28,775,812	142,992	1,511,153

Lumber Exports.—Exports of planks, boards and square timber are given in Chapter XXI on Foreign Trade.

Subsection 3.—The Pulp and Paper Industry

The manufacture of pulp and paper has been the leading industry in Canada for many years and the postwar development of the industry has more than kept pace with the vast industrial growth of the nation. Pulp and paper stands first among all industries in net value of shipments, in exports, in total wages paid and in capital invested. It is the largest consumer of electric energy and the largest industrial buyer of goods and services, including transportation, in the land. The industry has a newsprint output about four times that of any other country and provides over 50 p.c. of the world's newsprint needs. Canada is one of the world's greatest woodpulp exporters and stands second only to the United States as a producer of pulp.

There are three classes of mills in the industry. In 1957, 31 were making pulp only, 25 were making paper only and 72 were combined pulp and paper mills.

The industry includes several forms of industrial activity: operations in the woods with pulpwood as a product, the manufacture of pulp and paper of all kinds, and the manufacture of paperboards. Some of the important pulp companies operate sawmills

to utilize the larger timber on their limits to the best advantage, and some lumber manufacturers divert a portion of their spruce and balsam logs to pulp mills. Less than 13 p.c. of the pulpwood cut in Canada is exported in raw or unmanufactured form and a large portion of such exports is cut from private lands.

13.—Production, Consumption, Exports and Imports of Pulpwood, 1947-56

NOTE.—Table compiled on a new basis; figures not comparable with those published in the corresponding table of previous Year Books.

Year	Total Production of Pulpwood in Canada			Canadian Pulpwood Used in Canadian Pulp Mills		Canadian Pulpwood Exported Unmanufactured		Imported Pulpwood Used in Canada	
	Quantity ¹	Total Value	Average Value per Cord	Quantity ¹	P.C. of Total Production	Quantity ¹	P.C. of Total Production	Quantity ¹	P.C. of Total Consumption
	cords	\$	\$	cords		cords		cords	
1947.....	13,657,107	249,911,951	18.30	9,701,078	85.3	2,001,477	14.7	50,508	0.5
1948.....	13,814,970	271,560,306	19.66	10,394,718	83.0	2,352,552	17.0	75,969	0.7
1949 ²	10,308,783	202,544,308	19.65	10,464,990	84.0	1,644,253	16.0	5,491	—
1950.....	13,424,358	280,837,687	20.92	11,406,688	86.7	1,782,134	13.3	28,220	0.2
1951.....	18,151,853	416,196,281	22.93	12,587,792	84.1	2,893,615	15.9	46,634	0.4
1952.....	14,755,089	346,802,085	23.50	11,960,014	82.9	2,529,353	17.1	31,060	0.3
1953.....	13,545,181	309,011,150	22.81	12,060,853	86.8	1,783,657	13.2	48,805	0.4
1954.....	14,739,571	323,800,478	21.97	12,875,978	87.6	1,826,193	12.4	105,030	0.8
1955.....	16,087,951	369,476,288	22.97	13,494,496	88.3	1,882,784	11.7	134,917	1.0
1956.....	17,556,265	419,470,968	23.89	13,843,711	87.6	1,953,470	12.4	188,144	1.4

¹ Given in terms of rough or unpeeled wood.

² Newfoundland included from 1949.

Pulp Production.—The manufacture of pulp, the second stage in this industry, is carried on by mills producing pulp only and also by paper manufacturers operating pulp mills in conjunction with paper mills to provide their own raw material. Such mills usually manufacture a surplus of pulp for sale in Canada or for export. Spruce, supplemented by balsam fir in the east and by hemlock in the west, is the most suitable species for the production of all but the best classes of paper.

The preliminary preparation of pulpwood is frequently carried on at the pulp mill but there are also a number of cutting-up and rossing mills operating on an independent basis, chiefly for the purpose of saving freight on material cut at a distance from the mill or on material intended for export. Pulpwood is measured by the cord (4' by 4' by 8' of piled material). One cord of rough pulpwood contains approximately 85 cu. feet of solid wood, and one cord of peeled pulpwood 95 cu. feet.

Of the total 1957 pulp production, 86 p.c. was made in combined pulp and paper mills by companies manufacturing paper. The remainder was made for sale in Canada or for export by mills making pulp only. Over 53 p.c. was groundwood pulp and about 17 p.c. unbleached sulphite fibre, these being the principal components of newsprint paper. Bleached sulphite, bleached, semi-bleached and unbleached sulphate, soda fibre, semi-chemical, other grades and groundwood and chemical screenings made up the remainder. A considerable market has developed for screenings in connection with the manufacture of rigid insulating boards.

The manufacture of 10,425,295 tons of pulp produced in 1957 entailed the use of 13,367,088 cords of rough pulpwood valued at \$361,151,710 and the equivalent of 1,091,805 rough cords of other wood (i.e., sawmill chips, slabs and edgings, sawdust, butts, cores, etc.) valued at \$20,828,204. The total value of materials used in the manufacture of pulp was \$456,222,811.

14.—Pulp Production, Mechanical and Chemical, 1948-57

NOTE.—Figures for earlier years will be found in the corresponding table of previous Year Books.

Year	Mechanical Pulp		Chemical Fibre		Total Production ¹	
	Quantity	Value	Quantity	Value	Quantity	Value
	tons	\$	tons	\$	tons	\$
1948.....	4,413,513	168,343,496	2,997,281	310,338,614	7,675,079	485,966,164
1949 ²	4,718,806	166,591,741	2,891,418	272,355,430	7,852,998	445,138,494
1950.....	4,910,803	173,085,433	3,314,250	323,330,963	8,473,014	502,583,925
1951.....	5,172,465	213,953,064	3,814,086	503,997,803	9,314,849	727,880,005
1952.....	5,175,319	217,352,245	3,518,127	423,789,033	8,968,009	650,021,180
1953.....	5,122,597	209,899,639	3,663,289	406,114,975	9,077,063	624,865,504
1954.....	5,337,610	214,102,066	4,057,046	433,359,934	9,673,016	655,916,738
1955.....	5,466,925	218,557,773	4,359,226	465,149,732	10,150,547	693,402,831
1956.....	5,723,002	231,236,271	4,645,493	463,880,858	10,733,744	706,232,534
1957.....	5,574,233	227,668,164	4,526,667	468,067,374	10,425,295	706,194,649

¹ Includes screenings and unspecified pulps.² Newfoundland included from 1949.**15.—Pulp Production, by the Chief Producing Provinces, 1948-57**

NOTE.—Figures for earlier years will be found in the corresponding table of previous Year Books.

Year	Quebec		Ontario		Canada ¹	
	Quantity	Value	Quantity	Value	Quantity	Value
	tons	\$	tons	\$	tons	\$
1948.....	3,902,072	227,425,545	2,226,124	153,870,832	7,675,079	485,966,164
1949.....	3,698,401	196,568,681	2,138,444	140,662,434	7,852,998	445,138,494
1950.....	3,922,543	216,299,900	2,297,518	156,390,753	8,473,014	502,583,925
1951.....	4,282,568	298,100,313	2,484,551	219,571,231	9,314,849	727,880,005
1952.....	4,192,047	280,314,341	2,308,722	182,773,000	8,968,009	650,021,180
1953.....	4,163,068	265,937,385	2,323,509	177,713,471	9,077,063	624,865,504
1954.....	4,315,465	268,759,418	2,420,903	183,381,040	9,673,016	655,916,738
1955.....	4,491,139	280,171,743	2,602,298	196,235,632	10,150,547	693,402,831
1956.....	4,809,011	296,884,619	2,735,241	178,012,929	10,733,744	706,232,534
1957.....	4,605,853	286,727,250	2,746,177	207,305,585	10,425,295	706,194,649

¹ Includes production in British Columbia, Manitoba, New Brunswick, Nova Scotia and, from 1949, Newfoundland.

Pulp Exports.—The chief market for Canadian newsprint and pulp is the United States. Prior to World War II this market alone absorbed about 85 p.c. of the pulp exports and 80 p.c. of the newsprint exports. In 1945 the proportions were 76 p.c. and 83 p.c. respectively and in 1957, 81 p.c. and 85 p.c.

16.—Exports of Pulp to the United Kingdom, United States and All Countries, 1948-57

Year	United Kingdom		United States		All Countries	
	Quantity	Value	Quantity	Value	Quantity	Value
	tons	\$	tons	\$	tons	■
1948.....	170,596	21,369,417	1,590,674	184,972,898	1,797,998	211,564,384
1949 ¹	181,828	20,137,715	1,305,334	141,641,380	1,557,348	171,504,163
1950.....	117,921	13,128,894	1,694,444	191,005,507	1,846,143	208,555,549
1951.....	217,250	37,770,627	1,831,410	276,760,578	2,243,307	365,132,884
1952.....	210,685	35,208,295	1,588,978	225,082,376	1,940,579	291,863,498
1953.....	214,951	28,099,255	1,599,491	202,247,663	1,950,152	248,674,880
1954.....	270,946	34,486,399	1,669,782	206,435,403	2,180,416	271,418,005
1955.....	280,575	34,814,098	1,868,804	233,796,779	2,366,133	297,304,069
1956.....	244,164	29,762,920	1,919,634	245,080,531	2,374,113	304,536,497
1957.....	225,482	28,662,271	1,847,364	235,258,142	2,282,656	292,406,102

¹ Newfoundland included from 1949.

World Pulp Statistics.—Figures of production, exports and imports of pulp for certain countries of the world have again become available after the interruption caused by World War II and are shown for 1956 and 1957 in Table 17. It is estimated that these countries produce over three-quarters of the world supply of pulp.

17.—Production, Exports and Imports of Pulp, by Leading Countries, 1956 and 1957

(SOURCE: Canadian Pulp and Paper Association)

Country	1956			1957		
	Production	Exports	Imports	Production	Exports	Imports
	'000 tons	'000 tons	'000 tons	'000 tons	'000 tons	'000 tons
Canada ¹	10,742	2,375	65	10,397	2,282	65
United States.....	22,118	531	2,334	21,802	530	2,107
Finland.....	3,131	1,444	—	3,371	1,476	—
Norway.....	1,491	780	22	1,447	766	24
Sweden.....	4,970	2,807	1	4,661	2,711	—

¹ Figures differ slightly from DBS Tables 14 and 16, p. 481, because of different bases of calculation.

Paper Production.—During 1957 there were 97 establishments producing paper and paper board in Canada. In addition to newsprint, Canadian mills have a highly developed production of fine paper, wrapping paper, tissues, paperboard and other cellulose products.

18.—Paper Production, by Type, 1948-57

NOTE.—Figures for earlier years will be found in the corresponding table of previous Year Books.

Year	Newsprint Paper		Book and Writing Paper		Wrapping Paper	
	Quantity	Value	Quantity	Value	Quantity	Value
	tons	\$	tons	\$	tons	\$
1948.....	4,640,336	402,099,718	231,608	45,178,968	207,128	31,036,805
1949 ¹	5,187,206	467,976,343	199,317	40,598,820	195,585	30,033,478
1950.....	5,318,988	506,968,207	214,097	47,356,410	222,840	37,776,291
1951.....	5,561,115	564,361,193	253,081	63,790,259	257,332	49,664,005
1952.....	5,707,030	600,515,960	224,683	57,463,621	222,529	45,356,720
1953.....	5,755,471	633,408,019	246,513	61,451,545	238,111	49,028,911
1954.....	6,000,895	657,487,344	269,353	68,613,807	250,408	51,341,374
1955.....	6,196,319	688,338,869	301,352	74,904,349	263,915	53,998,859
1956.....	6,445,110	735,644,049	341,580	86,524,107	288,146	61,098,013
1957.....	6,361,651	729,009,081	335,037	86,990,136	277,208	60,402,276
	Paperboard		Tissue and Miscellaneous Paper		Totals	
	Quantity	Value	Quantity	Value	Quantity	Value
	tons	\$	tons	\$	tons	\$
1948.....	817,432	80,864,700	167,142	23,166,651	6,063,646	582,346,842
1949 ¹	797,023	80,632,075	160,838	22,219,122	6,539,969	641,459,838
1950.....	876,894	92,531,711	179,216	25,521,207	6,812,035	710,153,826
1951.....	960,493	113,469,950	193,250	32,744,242	7,225,271	824,029,649
1952.....	874,582	106,066,622	172,976	28,702,185	7,201,800	838,105,108
1953.....	948,955	114,978,277	187,476	28,991,721	7,376,526	887,858,473
1954.....	940,195	117,172,691	188,755	30,975,427	7,649,607	925,590,643
1955.....	1,027,441	130,365,751	211,186	33,831,919	8,000,213	981,439,247
1956.....	1,173,087	147,967,340	218,862	39,258,846	8,466,785	1,070,492,355
1957.....	1,114,726	143,079,419	211,267	36,890,420	8,299,889	1,056,371,332

¹ Newfoundland included from 1949.

Quebec produced over 48 p.c. of the total paper made in 1957, Ontario over 28 p.c., British Columbia about 9 p.c. and Nova Scotia, New Brunswick, Manitoba and Newfoundland the remaining 15 p.c.

19.—Paper Production, by Province, 1956 and 1957

Province	1956		1957	
	Quantity	Value	Quantity	Value
	tons	\$	tons	\$
Quebec.....	4,074,317	501,614,263	3,972,081	493,426,075
Ontario.....	2,337,501	324,446,472	2,337,508	325,850,728
British Columbia.....	750,445	89,281,869	741,784	87,913,440
Nova Scotia, New Brunswick, Manitoba and Newfoundland.....	1,304,522	155,149,751	1,248,516	149,181,089
Totals.....	8,466,785	1,070,492,355	8,299,889	1,056,371,332

Exports of Newsprint.—Total exports of newsprint from Canada in the years 1948-57 are given in Table 20.

20.—Exports of Newsprint to the United Kingdom, United States and All Countries, 1948-57

Year	United Kingdom		United States		All Countries	
	Quantity	Value	Quantity	Value	Quantity	Value
	tons	\$	tons	\$	tons	\$
1948.....	60,690	5,319,660	3,917,366	340,334,045	4,328,084	383,122,743
1949 ¹	108,213	9,930,070	4,346,414	395,259,575	4,789,296	440,054,067
1950.....	19,095	1,861,980	4,724,937	463,155,927	4,938,069	485,746,314
1951.....	72,205	7,488,187	4,774,947	496,852,197	5,112,061	536,372,498
1952.....	131,005	14,575,722	4,850,962	534,372,859	5,327,430	591,790,209
1953.....	158,108	18,237,016	4,917,216	564,464,267	5,375,251	619,033,394
1954.....	250,185	28,639,166	4,866,649	558,633,675	5,521,530	635,669,692
1955.....	286,343	33,013,480	5,027,767	578,322,418	5,763,167	665,876,937
1956.....	347,905	41,531,514	5,218,911	615,941,551	5,967,194	708,384,822
1957.....	371,870	44,009,073	5,058,229	610,290,208	5,900,625	715,489,761

¹ Newfoundland included from 1949.

World Newsprint Statistics.—Since 1913 Canada has led the world in the export of newsprint. Figures for the leading producing countries for the two latest years available are given in Table 21; 1939 figures are included for comparative purposes. The six countries listed accounted for 73 p.c. of the estimated world production in 1957, Canada contributing about 45 p.c.

21.—Estimated World Newsprint Production and Exports, by Leading Countries, 1939, 1956 and 1957

(SOURCE: Newsprint Association of Canada)

Country	Production			Exports		
	1939	1956	1957	1939	1956	1957
	'000 tons	'000 tons	'000 tons	'000 tons	'000 tons	'000 tons
Canada¹.....	3,175	6,243	6,397	2,935	5,972	5,907
United States.....	939	1,717	1,826	13	152	118
United Kingdom.....	848	720	732	42	152	136
Finland.....	550	657	686	433	588	603
Sweden.....	306	457	476	199	274	297
Norway.....	222	191	200	188	149	155

¹ Figures differ slightly from DBS figures given in Tables 18 and 20, because of different bases of calculation.

Statistics of the Combined Pulp and Paper Industries.*—The manufacture of pulp, the manufacture of paper and the manufacture of products made of paper may, under certain conditions, be treated as three industries for they are frequently carried on in separate plants by entirely independent companies. The manufacture of basic stock and the converting of this paper into stationery and other highly processed paper products are often combined in one plant. This conversion of paper within the pulp and paper industry represents only a small part of Canada's production of converted paper and boards, the bulk of which is still made in special converting mills classified in other industrial groups.

The presence of these different combinations in one mill makes it difficult to separate many of the statistics relating to the manufacture of pulp, basic paper and converted paper products. All converting operations carried on in paper mills in this industry are attributed to the particular industrial group of converting plants to which they properly belong. Including manufacturing operations as far as the basic paper-making stage, there were altogether 128 mills in operation in 1957. The employees numbered 65,940 and their salaries and wages amounted to \$307,627,849, as against \$297,571,944 the previous year. If the pulp made for their own use in combined pulp and paper mills is disregarded, the total value of materials and supplies used in the industry as a whole amounted to \$617,175,797 in 1957 compared with \$625,205,442 in 1956; the selling value of factory shipments to \$1,411,934,462 in 1957 and \$1,453,441,726 in 1956; and value added by manufacture to \$693,475,562 in 1957 and \$736,346,393 in 1956.

The pulp and paper industry is one of the leading single manufacturing industries in Canada. In 1957 as in 1956 it was first in selling value of factory shipments, in value added by manufacture, in employment and in salaries and wages paid. The manufacturing stages only of the industry are considered in these comparisons, no allowance being made for capital invested, men employed, wages paid or primary products sold in connection with the woods operations. These form an important part of the industry as a whole but cannot be separated from woods operations carried on in connection with sawmills and other industries. In world trade, pulp and paper are generally Canada's main commodities—newsprint alone, over a considerable period, has brought Canada more export dollars than wheat, nickel or any other single commodity.† The United States market absorbs annually over 80 p.c. of all pulpwood exports and over 80 p.c. of the pulp and the paper shipments of Canada.

Subsection 4.—The Veneer and Plywood Industries‡

The production of hardwood plywood in Canada is confined largely to the eastern provinces. Changes in manufacturing methods applied to hardwood plywood resulted in its adaptation to many uses, particularly to attractive wall finishes for homes and other buildings, flush doors, radio and television cabinets and other home and office furniture.

Softwood plywood is produced almost entirely in British Columbia. Douglas fir is most commonly utilized because of the availability of large diameter logs of this species from which large sheets of clear veneer can be obtained. The use of synthetic resin adhesives is responsible for this product that has become almost indispensable to the construction industry—for wall panels, concrete forms, roofing, sheeting and house sub-floors; for construction of silos, cribs and caissons; for box-car linings, bus bodies, trailers, power-driven and other types of watercraft; for box panels and crate linings, case goods and core-stock for furniture; for plywood-faced doors and for many other items.

The heating of glued veneers in moulds by high-frequency electric fields (dielectric heating) permits the manufacture of shaped plywood which is now being used for furniture, radio cabinets and similar products. The possibilities of this development are becoming more widely appreciated.

* See Chapter XIV for further particulars regarding the pulp and paper and paper-converting industries.

† For reasons given in Section I, Part II of the Foreign Trade Chapter, gold is excluded from Canadian trade statistics.

‡ Prepared by the Forest Products Laboratories, Forestry Branch, Department of Northern Affairs and National Resources, Ottawa.

Veneers of Canadian manufacture are not confined to species native to Canada. A number of imported woods of special decorative value are veneered successfully and provide the furniture industry with a wide choice of finishes. Exports of veneer and plywood produced in Canada increased in value from \$969,256 in 1938 to a high of \$30,103,676 in 1955, but declined to \$29,020,281 in 1956 and to \$22,335,667 in 1957.

22.—Veneer and Plywood Produced for Sale, by Type, 1955-57

Type	1955 ¹	1956		1957	
		Not over 1/20 Inch	Over 1/20 Inch	Not over 1/20 Inch	Over 1/20 Inch
Veneer..... M sq. ft.	643,213	596,638	936,986	524,127	500,755
\$	18,437,625	14,952,955	9,559,268	13,529,436	4,622,407
Domestic softwood..... M sq. ft.	318,572	1,851	873,688	6,240	432,605
\$	3,817,678	48,890	7,752,567	71,857	2,977,350
Domestic hardwood..... M sq. ft.	315,564	560,914	62,940	488,830	67,311
\$	13,881,934	13,705,076	1,797,285	12,274,087	1,615,194
Imported wood..... M sq. ft.	9,077	33,873	358	29,057	839
\$	738,013	1,198,989	9,416	1,183,492	29,863
Plywood (1/4 inch Basis)..... M sq. ft.	1,159,760	1,304,630		1,257,962	
\$	82,593,534	98,192,320		89,959,610	
Domestic softwood..... M sq. ft.	956,235	1,083,659		1,031,386	
\$	57,188,234	69,764,496		65,017,348	
Domestic hardwood..... M sq. ft.	189,540	207,576		214,265	
\$	22,163,977	24,869,773		22,116,570	
Imported wood..... M sq. ft.	13,985	13,395		12,311	
\$	3,241,323	3,558,051		2,825,692	

¹ 1/10 inch basis prior to 1956.

Subsection 5.—The Wood-Using Industries

The wood-using group comprises thirteen industries,* other than sawmills and pulp mills, using wood as their principal raw material. Most of these industries obtain from the sawmills the wood they transform into planed and matched lumber, boxes, barrels, furniture, caskets and other manufactured or semi-manufactured products but the veneer and plywood and excelsior industries usually manufacture their products direct from logs and bolts.

This wood-using group does not include every industry into which wood enters as a raw material but only those producing commodities where the chief component is wood. There are a number of industrial groups in which wood is an important raw material as in the manufacture of agricultural implements, musical instruments, etc., and others such as the manufacture of machinery in which wood is necessary but only in comparatively small proportions.

Wood is used indirectly in the manufacture of all-metal products such as wooden patterns and wooden foundry boxes in making metal castings. Wood in the form of barrels, boxes and other containers also enters into the distribution of commodities of all kinds.

In 1957 the wood-using group, comprising 4,520 establishments, gave employment to 76,175 persons and paid out \$225,493,899 in salaries and wages. The gross value of its products was \$779,482,475 and the net value \$348,083,054.

* Furniture; sash, door and planing mills; veneer and plywood; hardwood flooring; boxes, baskets and crates; wood-turning; coffins and caskets; cooperage; woodenware; lasts, trees and wooden shoe findings; beekeepers' and poultrymen's supplies; excelsior; and other wood-using industries.

The importance of secondary industry in providing employment will be appreciated when it is noted that the number of employees in the wood-using group was more than 76,000, as compared with sawmills with approximately 51,000 employees and pulp and paper with about 66,000 in 1957.

23.—Wood Used by Wood-Using Industries, 1954-57

Item	1954	1955	1956	1957
Sawn lumber.....M ft. b.m. \$	2,054,525 143,723,883	2,400,525 171,369,570	2,468,620 180,238,737	2,238,659 160,772,141
Sawlogs, veneer logs, flitches, butts and crotches. M ft. b.m. \$	378,572 30,493,926	480,705 39,979,594	540,055 48,526,195	501,656 44,223,163
Veneers and plywoods.....\$	25,320,813	30,074,481	36,717,541	34,703,630
Other wood used.....\$	5,997,019 ^r	6,387,141 ^r	8,011,668	6,924,556
Totals.....\$	205,535,641^r	247,810,786^r	273,494,141	246,623,490

Subsection 6.—The Paper-Using Industries

The paper-using group comprises three industries* engaged primarily in manufacturing commodities of paper and paperboard. Establishments engaged in printing, publishing, bookbinding and the allied graphic arts also consume large quantities of these materials but under the standard industrial classification adopted by the Dominion Bureau of Statistics in 1948 they are grouped separately.

Some paper-using establishments purchase paper as a raw material from the pulp and paper industry and merely subject it to some form of treatment to fit it for further manufacture in some other industry. This occurs in the manufacture of coated, sensitized or corrugated paper. Other firms purchase paper and subject it to some treatment to fit it for a definite final use such as in the manufacture of asphalt roofing or waxed wrapping paper. Another large group uses paper and paperboard as a raw material for conversion into paper bags, boxes, envelopes, laminated wallboard and other commodities.

The manufacture of containers and packages of various kinds has grown very rapidly since ways have been found of converting tough and cheap paper stocks into strongly made boxes which are replacing wooden crates and packing cases. Small attractive paper containers for use in the retail trade are growing in favour and constitute an important branch of the paper-using industries.

Composition roofing and sheathing, consisting of paper felt saturated with asphalt or tar and in some cases coated with a mineral surfacing, is being increasingly used as a substitute for metal roofing, wooden shingles and siding materials. Wood-fibre building boards, some of which are produced by lamination in the paper-using industries, are now used extensively in construction, especially for insulating purposes, replacing lumber and wood lath.

The growth of the paper-using industries in Canada since 1923 reflects these developments. In 1923 the 152 establishments in this group employed 6,870 persons, distributed \$7,442,102 in salaries and wages and produced goods valued at \$31,760,948. In 1957 these industries comprised 454 plants, provided employment for 28,343 persons whose earnings totalled \$95,658,442 and produced products worth \$453,784,723.

* Paper boxes and paper bags; roofing paper; miscellaneous paper goods.

Subsection 7.—Printing, Publishing and Allied Industries

The printing trades group is made up of five closely related industries: printing and publishing, comprised of publishers who operate printing plants; printing and bookbinding, including general or commercial printers and bookbinders; lithographing, comprised of plants specializing in that process; engraving, stereotyping and electrotyping, including photo-engraving; and trade composition or typesetting for printers. A sixth industry covering publishers of periodicals who do not print their own publications has been included since 1949. Although strictly speaking these publishers are not manufacturers, they are closely related to the printing trades which produce the plates, cuts, etc., and print newspapers, magazines, directories, yearbooks, almanacs, house organs and other periodicals for them.

In 1957 the manufacturing printing trades employed 68,248 persons whose earnings totalled \$259,128,560. Their output was valued at \$660,810,350 and the raw materials used and services received cost \$212,362,067.

Periodicals valued at \$270,206,914 accounted for about 40 p.c. of the value of printed matter and other products, daily newspapers alone contributing \$194,901,935. The value of periodicals is made up of \$201,637,619 received from advertising and \$68,569,295 received from subscriptions and sales of publications. In addition, the 1,623 publishers in the sixth industry reported revenues of \$47,937,549 from advertising and \$14,196,040 from sales of publications.

CHAPTER XI.—MINES AND MINERALS

CONSPECTUS

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NOTE.—The interpretation of the symbols used in the tables throughout the Year Book will be found facing p. 1 of this volume.

Section 1.—Canada's Mineral Industry 1957-58*

Canada's mineral industry attained a record value of production in 1957. The total of \$2,190,322,392 represented a gain of \$105,400,000 over that of the previous year, though the increase was far less than those of other postwar years. In any event, 1957 brought many vital achievements. Important mineral discoveries were made, newly constructed rail lines linked several mining communities with civilization, advances in technology pointed the way to improved procedures in mining and milling and, generally speaking, the year was one of continued growth and development for the mineral industry. Nevertheless, trouble spots appeared as 1957 drew to a close. A substantial drop occurred in the demand for copper, lead and zinc, bringing severe declines in their market prices and forcing a number of base-metal mines to close and others to abandon development programs. In 1958 the United States, the industry's most important customer, imposed a 1.7-cent-a-pound duty on copper imports and severe quotas on imports of lead and zinc. For nickel, the era of premium prices came to an end and, by March 1958, the country's leading producer had cut back production. The petroleum industry also faced a marketing problem when the United States instituted oil import quotas on its west coast refineries. Asbestos miners were faced with a recession on one side of the Atlantic and stepped-up competition from producers abroad. As a result, the value of Canada's total mineral production for 1958 fell 3 p.c. behind that of the previous year.

However, despite its difficulties, the industry showed encouraging signs of strength. Uranium production, valued at \$45,700,000 in 1956, soared to \$136,000,000 in 1957 and to an estimated \$290,000,000 in 1958. Natural gas output expanded as pipelines brought the fuel to more Canadian communities. In fact, most companies looked ahead to better times. In northern Manitoba a major program was under way in 1957 and 1958 to bring new nickel mines into production. Dozens of companies were carrying out exploration

* The introduction and Subsection 1 of this Section were prepared under the direction of Dr. Marc Boyer, Deputy Minister of the Department of Mines and Technical Surveys, by John W. MacLeod of the Editorial and Information Division.

work in the Mattagami and Chibougamau areas of Quebec. In the Quebec-Labrador area Canadian and American interests were involved—to the extent of over \$700,000,000—in what will, in a decade or so, become the country's largest iron mining area. In Saskatchewan some 25 companies held land for development of rich potash deposits extending across the central part of the province; one mine was in production by the end of 1957.

While the short-term prospects for some minerals were still somewhat clouded at the end of 1958, most mining executives believed that the worst of the downturn was over; that whatever the next few years might bring, the long-range outlook remained as promising as ever; that a world bent on a high standard of living, industrial expansion and the conquest of outer space would, in the years ahead, require unprecedented quantities of metals, industrial minerals and fuels.

Subsection 1.—Metals*

In contrast with the spectacular gains of previous years, the value of Canada's metallic mineral production in 1957 levelled off at \$1,159,579,226 and in 1958 fell to an estimated \$1,142,140,007. The main cause of the decline was the drop in demand and market prices for base metals.

Nickel.—In 1957 there was an increase in the world supply of nickel, a rise in stocks held by both producers and consumers. Defence demands were reduced and the era of premium nickel prices came to an end. As a result, several companies abandoned development plans and by March 1958 The International Nickel Company of Canada Limited, the country's leading producer, had announced its first production cutback. Total 1957 production rose to 187,958 tons valued at \$258,977,309 compared with 178,515 tons at \$222,204,860 in the previous year. However, 1958 brought a marked decline in both volume and value, production for the year reaching 139,041 tons at \$196,733,985.

Ninety-five per cent of Canada's nickel production came from the Sudbury area of Ontario and the remainder from Manitoba and the Northwest Territories. In 1957, International Nickel operated at capacity for the eighth successive year, mining 16,000,000 tons of ore and increasing its nickel deliveries to 145,025 tons. But in March 1958 the company cut production by 10 p.c. and by July was operating at about two-thirds capacity. A development of major importance was the introduction by International Nickel of a new process for the recovery of nickel by the direct electrolysis of nickel matte. This method also permits recovery of cobalt high-purity sulphur and selenium.

For Falconbridge Nickel Mines Limited, whose seven Sudbury-area mines accounted for 2,005,439 tons of ore, 1957 was a record year and operations in 1958 were close to capacity. On the other hand, Nickel Rim Mines Limited, on the east rim of the Sudbury basin, shut down its mine in 1958 pending an increase in prices. The previous year it had milled 342,565 tons of nickel-copper ore bearing about 1,336 tons of nickel. Sherritt Gordon Mines Limited, with two producing nickel-copper mines and a concentrator at Lynn Lake, Man., and a refinery at Fort Saskatchewan, Alta., produced 10,033 tons of nickel in 1957 and continued to operate close to capacity the following year. North Rankin Nickel Mines began production of nickel-copper concentrate at Rankin Inlet, N.W.T., some 320 miles north of Churchill, Man., and in 1957 accounted for about 979 tons of nickel. Western Nickel Limited at Hope, B.C., constructed a mill and produced its first shipment of nickel concentrates early in 1958 but ceased operations when mining became uneconomical.

The most important exploration-development news in nickel in 1957-58 came from Manitoba, where International Nickel had under way a major program to bring its Thompson and Moak Lake mines into production by late 1960. A 30-mile railway spur was completed from the Canadian National Railways' Hudson Bay line to the town of Thompson in the autumn of 1957. In the Sudbury area of Ontario the company worked

* The figures for 1957 in this Subsection are final but those for 1958, as well as some pertaining to individual companies in both years, are subject to revision.

to bring its Crean Hill mine into production and began construction of a concentrator at Leveck but later curtailed both projects as the market weakened. In 1957, Falconbridge Nickel Mines carried out extensive pre-production development at its Onaping, Fecunis and Boundary mines in the Onaping area near Sudbury. The company put a new 2,000-ton mill into operation at Fecunis and early the following year blew in a new smelter. The Kenora area of Ontario also became the scene of considerable underground development work, but most of these operations were suspended before the end of the year.

Other areas of exploratory interest in 1957-58 included the Ungava area across northern Quebec, particularly the property of Raglan Nickel Mines Ltd.; the Coppermine River area of the Northwest Territories, where International Nickel and Sherritt Gordon undertook extensive diamond-drilling; and the Noranda district, where spasmodic drilling was carried out. New Manitoba Mining and Smelting Company Limited made considerable progress in the development of its property southwest of Cat Lake but was subsequently forced to discontinue the work.

Copper.—In 1957 and 1958 Canadian copper mining was hurt by declining prices. The world surplus that developed in 1956 continued to grow in 1957 and toward the end of the year producers were taking steps to curtail output. In fact, low prices forced a number of low-grade producers to suspend operations and by the end of 1958 the value of copper production had declined an estimated \$29,000,000 from that of the previous year. The market was further weakened by a 1.7-cent-a-pound duty imposed by the United States on its copper imports.

Canadian copper production in 1957 (359,109 tons) exceeded the record 1956 level* by 4,249 tons. In value, however, it dropped 29 p.c. to \$206,897,988 and in 1958 fell to approximately \$178,000,000. In 1957, International Nickel was the chief Canadian producer, Hudson Bay Mining and Smelting Co. Limited, was second and Noranda Mines Limited, third. The 323,590 tons of refined copper produced that year came from the two copper refineries, one operated by International Nickel at Copper Cliff, Ont., and the other by Canadian Copper Refiners Limited at Montreal East, Que., a subsidiary of Noranda Mines Limited.

Six smelters for the reduction of copper and copper-nickel were operated in Canada. Plants at Copper Cliff and Coniston in Ontario were used by International Nickel. The smelter of Noranda Mines Limited processed ores from the company's Horne mine and concentrates from most of Eastern Canada. Gaspé Copper Mines Limited, with a smelter at Murdochville, Que., treated ore concentrates from Tilt Cove, Nfld., as well as its own. Other plants were operated by Hudson Bay Mining and Smelting Co. Limited and Falconbridge Nickel Mines Limited.

Ontario produced 171,703 tons of copper in 1957, nearly all from the Sudbury area. International Nickel continued large-scale operations at its five producing Sudbury mines. Company deliveries of refined copper in 1957 amounted to 140,405 tons, or about 40 p.c. of Canadian mine production. In the same area Falconbridge Nickel Mines Limited, with six producing mines, produced 12,614 tons of copper and Nickel Rim 570 tons of concentrate. Two new copper-zinc producers came into operation during the year, both in the Manitouwadge area; Willroy Mines Limited commenced shipments from its 1,000-ton-a-day concentrator in July and Geco Mines Limited began producing at the rate of 1,800 ore tons a day in September.

Quebec's copper production fell from 122,300 tons in 1956 to 112,409 tons the following year, owing chiefly to reduced output at Gaspé Copper Mines and to the closing down of several smaller mines. The main producers were Noranda Mines whose Horne mine produced 25,968 tons of copper and Gaspé Copper at Murdochville producing 17,693 tons. Other Noranda-area producers in 1957 were Waite Amulet Mines Limited (9,939 tons), Lyndhurst Mining Company Limited (1,671 tons), Quemont Mining Corporation Limited (11,334 tons) and Normetal Mining Corporation Limited (8,168 tons). Producers in the Val d'Or area were East Sullivan Mines Limited (7,897 tons), Golden Manitou Mines Limited (2,788 tons), and Rainville Mines Limited (2,234 tons) which closed down in

March 1958. Campbell Chibougamau Mines Limited, on Merrill Island in Lake Chibougamau produced 13,883 tons of copper for the year ended June 30, 1957, and 5,636 tons during the last six months of the year. Other copper producers in the area were Opemiska Copper Mines (Quebec) Limited (8,555 tons), and Anacon Lead Mines Limited (942 tons). Elsewhere, Quebec Copper Corporation Limited in southeastern Quebec and Weedon Pyrite and Copper Corporation Limited south of Quebec City together produced some 4,000 tons of copper. (The former company closed its mine in April 1958.) Early in 1958 Merrill Island Mining Corporation, a copper-gold producer at Doré Lake, opened a 650-ton mill and Campbell Chibougamau opened its new Cedar Bay mine in the same area.

Hudson Bay Mining and Smelting Company, with a copper-zinc mine, concentrator and smelter at Flin Flon on the Manitoba-Saskatchewan boundary, produced 44,344 tons of copper in 1957. Sherritt Gordon Mines Limited, with two nickel-copper mines and a concentrator at Lynn Lake, Man., had an output of 4,748 tons.

Among British Columbia's producers in 1957 were The Granby Consolidated Mining, Smelting and Power Company Limited and Britannia Mining and Smelting Company Ltd., both of whose mines were later closed because of low prices. Several other properties in British Columbia also suspended operations.

Other copper producers in 1957 included: North Rankin Nickel Mines Limited, N.W.T., (265 tons), Buchans Mining Company, Nfld., (4,149 tons), and Maritimes Mining Corporation at Tilt Cove, Nfld. (3,142 tons). Early in the year Heath Steele Mines Limited, with a copper-lead-zinc property in New Brunswick, inaugurated a mine and plant rated at 1,500 tons of ore a day but a year later cut production by two-thirds.

Copper exploration and development were severely tempered in 1957 and 1958 by the uncertainty of the market. In British Columbia, Western Nickel Mines Limited opened a mill for nickel-copper concentrates early in 1958; Granduc Mines Limited continued to develop its property northwest of Stewart but, discouraged by low copper prices, stopped work early in 1958; and elsewhere in the province limited amounts of diamond-drilling were carried out. Hudson Bay Mining and Smelting Co. undertook development work at its Coronation mine in Saskatchewan and at its Chisel Lake and Stall Lake mines in Manitoba. Development work of interest also took place on nickel-copper properties at Thompson, Moak Lake, and Cat Lake, and in the Sudbury area (*see* Nickel). Most of the exploration interest in copper in 1957-58 centred about the Mattagami region of western Quebec where a number of promising finds were made including the copper orebodies of New Hosco Mines Limited and Kennco Explorations (Canada) Limited.

Lead and Zinc.—Canadian lead and zinc mining in 1957 and 1958 was seriously hampered by falling prices and by quotas imposed by the United States to hold its imports of lead and zinc to 80 p.c. of the 1953-57 average. In 1957 lead prices fell from 15½ cents a pound to 10½ cents; production dropped 4 p.c. in volume to 181,484 tons and 13.5 p.c. in value to \$50,670,407, with a further decline to \$42,095,560 in 1958. Zinc output in 1957 was 413,740 tons valued at \$100,042,533, a decline of 8,893 tons worth \$25,394,811 from the previous year. The estimated production for 1958 was 428,638 tons valued at \$93,100,167.

British Columbia's mines accounted for more than half of Canada's lead and zinc production in 1957-58. The principal producer was The Consolidated Mining and Smelting Company of Canada Limited (Cominco), operators of the Sullivan mine and 11,000-ton Kimberley mill, the Bluebell mine and 500-ton Slocan mill, the H.B. mine and 1,000-ton Salmo mill, and the Tulsequah mine and mill. Concentrates from all Cominco mines and those from other mines in British Columbia, Yukon and some foreign areas were treated in the company's smelter at Trail. In 1957 Cominco mined 3,273,613 tons of ore, about 378,000 tons less than the previous year, and by mid-year the declining base-metals market forced the company to close its Tulsequah mine and curtail its operations at the Sullivan open pit. By June 1958 Cominco had reduced its lead production rate about 20 p.c.

Other important British Columbia producers included Canadian Exploration Limited (35,000 tons of lead-zinc ore a month in 1957), Reeves MacDonald Mines Limited (405,531 tons for the year), Britannia Mining and Smelting Company Ltd. (849,212 tons of copper-zinc ore for the year), Sheep Creek Mines Limited (500 tons of lead-zinc ore a day), Yale Lead and Zinc Mines Limited (180 tons of lead-zinc-silver ore a day), ViolaMac Mines Limited (1,700 tons of ore a month) and Sunshine Lardeau Mines Ltd. (28,176 tons of lead-zinc-silver ore for the year). Of these, Britannia and Sunshine Lardeau closed early in 1958.

United Keno Hill Mines Limited was the most important producer in Yukon, having milled 159,885 tons during its fiscal year ended Sept. 30, 1957. Low lead-zinc prices forced Galkeno Mines Limited to close late in the year and its property and 220-ton mill were acquired by United Keno Hill.

In 1957 Hudson Bay Mining and Smelting Co. Limited, Canada's second largest zinc producer, mined about 1,377,571 tons of copper-zinc ore from its Flin Flon property on the Manitoba-Saskatchewan boundary and 73,346 tons from its Schist Lake mine a few miles to the southeast. In 1958 the electrolytic zinc plant at Flin Flon, which processes ores from all company properties, continued to operate close to rated capacity of 190 tons a day.

In Ontario, zinc concentrates were produced mainly by Geco Mines Limited and Wilroy Mines Limited, both of which came into production late in 1957. Their zinc output in 1958 was approximately 45,200 tons.

In Quebec, low zinc prices in 1957 forced Barvue Mines Limited in Abitibi East to close its mine and others to curtail production. The principal sources of zinc concentrates were mines of the Noranda-Val d'Or district whose 1957 production of the metal was: Quemont Mining Corporation Limited, 16,190 tons; Normetal Mining Corporation Limited, 15,987 tons; Golden Manitou Mines Limited, 18,618 tons; Waite Amulet Mines Limited, 8,384 tons; and West MacDonald Mines Ltd., 14,500 tons. East Sullivan Mines Limited, which milled 905,241 tons of copper-zinc ore in 1957, closed its zinc circuit in February of the following year. Quebec's main lead producer was New Calumet Mines Limited, on Calumet Island, which in 1957 mined 142,324 tons of zinc-lead-silver ore containing about 1,979 tons of lead. Minor amounts were produced by Golden Manitou and Barvue Mines.

In New Brunswick, Heath Steele Mines Limited, 32 miles northwest of Newcastle, opened a 1,500-ton mill in February 1957 and produced zinc, lead and copper concentrates until March 1958, when low prices forced it to close.

Buchans Mining Company Limited, of Newfoundland, Canada's second largest source of lead in 1957, produced concentrates containing 26,584 tons of lead and 37,716 tons of zinc, a level it maintained in 1958.

One of the main development projects in 1957 and 1958 took place at the Snow Lake deposits of Hudson Bay Mining and Smelting Co. Limited, 70 miles east of Flin Flon. This included sinking a shaft at Chisel Lake, constructing a transmission line and starting work on a 50-mile railroad. Production is scheduled to begin in 1960. Meanwhile, the company continued to develop its Coronation mine 13 miles southwest of Flin Flon. Many projects begun in 1957 were deferred until prices improved. Consolidated Sudbury Basin Mines Limited brought its zinc-copper-lead deposits 15 miles northwest of Sudbury to the production stage but went no further. Brunswick Mining and Smelting Corporation Limited carried on with pilot-mill testing of its zinc-lead-copper ores 12 miles southwest of Bathurst and continued to develop its No. 12 mine and work out plans for mill, smelter and railway facilities; but the project ground to a halt as base-metal prices fell. Elsewhere in New Brunswick spasmodic diamond-drilling and geological mapping were carried out but, for the most part, the price decline caused development programs to be sharply curtailed.

In Quebec, the six-company Mattagami Syndicate diamond-drilled an aerial electromagnetic anomaly near Watson Lake, 100 miles north of Senneterre, and outlined a large deposit bearing mainly zinc and copper values (*see Copper*).

Iron Ore.—In 1957, a slackening in United States steel production and a 15-p.c. gain in ore stocks on both sides of the international border caused a levelling-off in Canadian shipments of iron ore. By the end of 1958, production had declined some \$46,000,000 from the previous year, though prospects for the future looked brighter as the United States steel industry began to recover.

Production in 1957 fell slightly from that of 1956 to 22,272,174 short tons valued at \$167,221,425, and in 1958 to 15,878,481 short tons at \$121,437,285. Quebec, the leading producer (8,872,948 short tons of iron ore at \$65,805,057) registered an increase both in production volume and in value in 1957. Newfoundland's production (8,174,779 short tons at \$57,898,102) levelled off slightly and Ontario's (4,867,105 short tons at \$41,317,629) showed a decline. Preliminary figures for 1958 show further declines in all three provinces.

In 1957, Iron Ore Company of Canada, based at Schefferville, Que., and operating in Newfoundland (Labrador) and New Quebec, shipped 12,435,712 long tons (2,240 lb.) of direct-shipping ore. Noranda Mines Limited, with mines in Quebec's Noranda area and a sinter plant at Port Robinson, Ont., accounted for 40,952 long tons of iron-oxide sinter. And Quebec Iron and Titanium Corporation, with a mine at Allard Lake and a smelter at Sorel, shipped 167,437 long tons of remelt iron. In 1957, Dominion Wabana Ore Limited, Bell Island, Nfld., sent out 2,879,019 long tons of heavy-media concentrates.

Ontario's iron ore output in 1957 was 691,098 short tons or \$2,859,617 below the 1956 level. Producers were: Marmoraton Mining Company Limited, Marmora (452,710 long tons of pelletized magnetite concentrate); Clarken Development Limited, 16 miles west of Millbridge Station in Hastings county (41 long tons of magnetite concentrate); Algoma Ore Properties Limited, mines and sinter plant near Jamestown (1,600,630 long tons of iron-oxide sinter); Steep Rock Iron Mines Limited, Steep Rock Lake near Atikokan (2,370,770 long tons of direct-shipping ore); and The International Nickel Company of Canada Limited, with mines in the Sudbury area and plant at Copper Cliff (113,099 long tons of iron-oxide pellets).

The volume of production in British Columbia dropped by 12,612 short tons in 1957 to 357,342, but the value increased by \$9,790 to \$2,200,637. Producers, whose shipments consisted of magnetite concentrate, were: Texada Mines Limited, Texada Island (178,572 long tons); Argonaut Mine Division of Utah Company of the Americas, Quinsam Lake, Vancouver Island (70,929 long tons); and Empire Development Company Limited, Elk River deposit, near the north end of Vancouver Island (an estimated 75,000 long tons).

Despite the uncertainty of the market, the exploration and development of iron-bearing properties in 1957-58 remained at a healthy level—especially in Quebec-Labrador. Iron Ore Company of Canada gave particular attention to the Wabush Lake area, where its holdings were estimated at over 1,000,000,000 tons of concentrating-grade ore. In the same area Wabush Iron Company Limited carried out preliminary surveys and late in 1958 accepted contracts for the construction of a 42-mile railway.

Quebec Cartier Mining Company made definite plans to mine its Lac Jeannine deposit where a specularite-bearing iron formation will provide some 20,000,000 tons of iron ore annually. In 1957 the company completed 160 miles of a truck-access road northward from Shelter Bay to its Mount Reed property and the following year called for bids for the construction of a 187-mile railroad from Shelter Bay, a hydro-electric power dam and other surface facilities. The company, along with others, continued to investigate claims in the Mount Reed and Mount Wright areas a few miles north and east of Lac Jeannine.

At Hopes Advance Bay in the Ungava Bay area, Ungava Iron Ores Company carried out extensive drilling and mapping. Plans called for three producing mines, with production scheduled for 1963. Near Shawville, Que., the Hilton mines made their first shipment of high-grade iron-oxide pellets early in 1958 and later opened a beneficiating plant rated at 600,000 tons a year. Other areas of active exploratory interest in Quebec included Montgolfier township, 60 miles north of Taschereau; Albanel Lake, 100 miles northeast of Chibougamau; and an area 35 miles inland from Hudson Bay. In the autumn of 1958,

a sharp reduction in the demand for titanium-rich slag forced Quebec Iron and Titanium Corporation to suspend smelting operations at Sorel. The company had completed its sixth electric furnace the year before and had two more under construction.

Developments in Ontario in 1957-58 centred mainly around the Michipicoten and Steep Rock Lake areas. Algoma Ore Properties Limited began producing siderite ore from the Sir James open-pit mine and continued the underground development at its Helen and Victoria mines. Steep Rock Iron Mines completed a new concentration plant (with another to be ready early in 1959) and continued to develop the new Hogarth underground mine and the "G" open pit. Caland Ore Company Limited carried on its dredging of the east arm of Steep Rock Lake. In the same area Canadian Charleson Limited began construction of a gravity separation plant for treating hematite-bearing gravels and by October 1958 had made its first shipment. Annual capacity was rated at 250,000 tons of iron-ore concentrate. In November 1957, Anaconda Iron Ore Company Ltd. was formed to purchase the iron ore claims of Lake Superior Iron Limited and others about 32 miles north of Nakina.

In British Columbia, 1957-58 brought a legal battle over the province's Mineral Property Taxation Act, passed in October 1957. The ruling, which would impose a tax of 50 cents a ton on shipments of iron ore, was successfully appealed in the Supreme Court of British Columbia but was to be considered again before the province's Court of Appeals. Several companies took an interest in British Columbia's iron in the two-year period. Among them, The Consolidated Mining and Smelting Company of Canada Limited studied the possibility of producing pig iron and steel from pyrrhotite tailings at its Kimberley concentrator, and Nimpkish Iron Mines Limited was incorporated as a private company to operate an iron property on Vancouver Island.

Gold.—For the gold mining industry, 1957 was a year of rising costs and reduced earnings. The premium on the Canadian dollar in relation to that of the United States continued to reduce the mint price of gold, which by August reached a low of \$33.06 per oz.t. Thus the value of Canada's gold production for the year fell to \$148,757,143 though the volume (4,433,894 oz.t.) was actually greater than that of 1956. Earnings for 1958, however, showed a slight improvement (4,534,455 oz.t. at \$154,065,491) and prospects for the future—attributed in no small measure to the Emergency Gold Mining Assistance Act—appeared somewhat brighter.

Almost 60 p.c. of Canada's gold comes from Ontario, where the 1957 output of 2,578,206 oz. t. valued at \$86,498,811 was 64,294 oz. t. higher than the 1956 level. Increases occurred mainly in the Larder Lake, Patricia and Thunder Bay districts with declines in Porcupine, Kirkland Lake, Sudbury and Matachewan. In 1958 all Ontario's gold mining areas except Sudbury showed production gains. The Porcupine district in 1957 had 13 auriferous-quartz mines in operation, of which Hollinger Consolidated Gold Mines Limited, McIntyre Porcupine Mines Limited and Dome Mines Limited were the three leading producers. Aunor Gold Mines Limited and the Hollinger-Ross mine at Holtre maintained production at about the level of the previous year while decreases of varying degrees were shown at Preston East Dome Mines Limited, Broulan Reef Mines Limited and the adjoining Hugh-Pam Porcupine Mines Limited, Pamour Porcupine Mines Limited, Coniaurum Mines Ltd., Delnite Mines Limited, Hallnor Mines Limited and Paymaster Consolidated Mines Limited.

Kerr-Addison Gold Mines Limited, Canada's largest gold producer, which operates in the Larder Lake district, increased its output by 44,000 oz. t. or by 9 p.c. In the Patricia area, the chief producers of 1957 were Campbell Red Lake Mines Limited and Madsen Red Lake Gold Mines Limited, both of which showed improved annual output along with New Dickenson Mines Limited, Cochenour Willans Gold Mines Limited and Pickle Crow Gold Mines Limited. On the other hand, Kirkland Lake's production continued downward, output from the seven gold mines in the district dropping by 3 p.c. Producers in 1957 were Lake Shore Mines Limited, Wright-Hargreaves Mines Limited, Macassa Mines

Limited, Kirkland Minerals Corporation Limited, Sylvanite Gold Mines Limited, The Teek-Hughes Gold Mines Limited and Upper Canada Mines Limited. In the Thunder Bay district both MacLeod-Cockshutt Gold Mines Limited, the chief producer, and Leitch Gold Mines Limited increased milled tonnage slightly.

Quebec's 1957 output declined by 29,164 oz. t. to 1,006,895 oz. t. valued at \$33,781,327. Only 11 auriferous-quartz mines were producing. In the Cadillac-Malartic district, the province's main gold-producing area, East Malartic Mines Limited registered an increase in output of 21 p.c. and Canadian Malartic Gold Mines Limited increased its production 15 p.c. With the closing of Sullivan Consolidated Mines Limited, however, the Bourlamaque-Louvicourt district had a 6-p.c. decrease but Lamaque Gold Mines Limited, Quebec's largest gold mine, increased production by approximately 3 p.c., and Bevecon Mines Limited by 17 p.c. In Noranda-Duparquet-Belleterre, Eldrich Mines Limited shipped 8,600 tons of gold ore a month to the smelter of Noranda Mines Limited for use as flux. Elder Mines Limited also shipped to Noranda for the same purpose. Gold from Quebec's base-metal mines in 1957 decreased 1,352 oz. t. to 406,545. The following year Sullivan Consolidated Mines Limited was reopened and production for the entire province rose 5.4 p.c.

Northwest Territories production in 1957 fell 12,651 oz. t. to 340,018 (valued at \$11,407,604) and finally to 335,720 oz. t. in 1958. The chief producers were: Giant Yellowknife Gold Mines Limited and the Con and Rycon mines of The Consolidated Mining and Smelting Company of Canada Limited, whose 1957 production eased slightly, and Consolidated Discovery Yellowknife Mines Limited, which that year had a 12-p.c. increase and the greatest gold production in its history.

In 1957 British Columbia, reversing a downward trend under way since 1948, showed an increase of more than 32,421 oz. t. over its 1956 output. This was a reflection of a 41-p.c. increase at Bralorne Mines Limited, the province's leading gold mine. The other producers were Pioneer Gold Mines of B.C. Limited in the Bridge River area and The Cariboo Gold Quartz Mining Company Limited in the Wells area. The 1958 output of the province was slightly lower.

Manitoba's production dropped by 224 oz. t. to 120,008 oz. t. valued at \$4,026,268. Output from the mine of Nor-Acme Gold Mines Limited at Snow Lake, the main auriferous-quartz source, held at the level of the previous year but in 1958 the mine was forced to close. Minor amounts (totalling less than \$6,000,000 in 1957) of gold are produced, largely as a by-product of base-metal mining, in Yukon, Saskatchewan, Alberta, Newfoundland and Nova Scotia.

Exploration and development work lagged somewhat in 1957 with no new mines coming into production, but interest rose noticeably in 1958 partly owing to the prospects of increased returns under the Emergency Gold Mining Assistance Act. Government financial assistance to gold mines facing abnormally high operating costs was extended to the end of 1960 and increased by 25 p.c. Some of the programs under way are mentioned below.

In Ontario's Porcupine district, Broulan Reef Mines Limited continued a major development program at depth; Delnite Mines Limited were opening three new levels and Aunor Gold Mines Limited increased its mill rate and were working on a new block of levels between 2,125 and 2,900 feet. In the Kirkland Lake camp, Wright-Hargreaves completed the sinking of its No. 6 shaft and was developing six new levels; and Upper Canada Mines Limited were shaft-sinking to the 4,825-foot horizon to provide eight new levels. In the Red Lake district, Robin Red Lake Mines Limited undertook a drilling program and New Dickenson Mines Limited deepened its shaft to open four additional levels.

In Quebec, Canadian Malartic Gold Mines Limited and Barnat Mines Ltd. carried out diamond-drilling programs, the latter reporting the discovery of an important ore zone at its 900-foot level. Other development work was undertaken by East Malartic Mines Limited, Sigma Mines (Quebec) Limited, Malartic Gold Fields Limited and Norlartic Mines Limited.

Bralorne Mines Limited, in the Bridge River area of British Columbia, pushed development of the 77 and 79 veins at depth, and The Cariboo Gold Quartz Mining Company Limited and Tofino Mines Limited also undertook development work.

In the Northwest Territories, Giant Yellowknife Gold Mines Limited, the principal producers, were installing a new roaster unit and baghouse to improve recovery of precious metals and planning to deepen the central shaft and increase the mill rate. The Consolidated Mining and Smelting Company planned to deepen the winze at the Con mine and were working new claims to the north of the Rycon mine. Consolidated Discovery Yellowknife Mines Limited began shaft-sinking, with four new levels to be developed, and Akaitcho Yellowknife Gold Mines Ltd. undertook a mapping and diamond-drilling program.

Silver.—About 60 p.c. of Canada's silver production is derived from lead-zinc and silver-lead-zinc ores, most of which are mined in British Columbia and Yukon. Fine silver is produced by The Consolidated Mining and Smelting Company of Canada Limited at Trail, B.C., from the refining of lead and zinc ores; by Canadian Copper Refiners Limited, Montreal East, Que., in refining blister copper; by Deloro Smelting and Refining Co. Ltd., Deloro, Ont., from the refining of silver-cobalt ores; by The International Nickel Company of Canada Limited, Copper Cliff, Ont., from the refining of nickel-copper ores; and by Hollinger Consolidated Gold Mines, Limited, Timmins, Ont., and the Royal Canadian Mint, Ottawa, Ont., in refining gold bullion.

Cutbacks at base-metal mines, the source of most of Canada's silver, tended to hold back production in 1957, but their effects were offset by the opening of new mines in Ontario and New Brunswick. The year's output of 28,823,298 oz. t. valued at \$25,182,915 remained close to the 1956 level. In 1958, however, there was a sharp improvement as production rose to 31,311,378 oz. t. valued at \$27,200,192.

In Yukon's Mayo district, Canada's largest single source of silver, United Keno Hill Mines Limited produced about 5,694,850 oz.t. in the fiscal year ended Sept. 30, 1957, derived mostly from the Hector and Calumet mines. Milling at Galkeno Mines Limited, a neighbouring property, was suspended late in the year as the market for base metals fell.

Of mines operated by The Consolidated Mining and Smelting Company of Canada Limited, the Sullivan at Kimberley, B.C., is the principal producer of silver. The company's silver recovery from its own ores and those of custom shippers amounted to 10,877,532 oz.t. in 1957. Other British Columbia producers were Torbrit Silver Mines Limited near Alice Arm; Highland-Bell Limited at Beavertell; Silver Standard Mines Limited, near Hazelton; ViolaMac Mines Limited, in the Slocan district; Sunshine Lardeau Mines Ltd., at Camborne; Western Exploration Co. Ltd., at Silvertown; Yale Lead and Zinc Mines Limited, at Ainsworth; and Sheep Creek Mines Limited, near Invermere. Giant Mascot Mines Limited, near Spillimacheen, ceased operations in June when their Silver Giant lead-zinc deposit was mined out. Some silver was obtained from two large copper producers—The Granby Consolidated Mining, Smelting and Power Company Limited, near Princeton (closed in April 1957 when the ore was exhausted), and Britannia Mining and Smelting Company Ltd. (closed in March 1958 because of low copper and zinc prices).

About 65 p.c. of Ontario's silver output comes from mines of the Cobalt-Gowganda area. The principal producers—Siscoe Metals of Ontario Limited, Silver-Miller Mines Limited, Castle-Trethewey Mines Limited, Langis Silver and Cobalt Mining Company Limited, Nipissing-O'Brien Mines Limited, and Cobalt Consolidated Mining Corporation Limited—ship their ores mainly to the refinery of Deloro Smelting and Refining Co. Ltd. At Copper Cliff, International Nickel recovered 1,450,000 oz. t. of silver in 1957 as a by-product in the treatment of nickel-copper ores. At Manitouwadge, Geco Mines Limited and Willroy Mines Limited, two new copper-zinc producers, went into operation late in the year. Other sources of silver were Jardun Mines Limited, near Sault Ste. Marie, Falconbridge Nickel Mines Limited, Coldstream Copper Mines Limited and numerous lode-gold mines.

Quebec's output of silver comes mainly from its copper ores. The principal producers in 1957 were Noranda Mines Limited, Golden Manitou Mines Limited, Normetal Mining Corporation Limited, Quemont Mining Corporation Limited, Barvue Mines Limited, New Calumet Mines Limited, Gaspé Copper Mines Ltd., East Sullivan Mines Limited, Waite Amulet Mines Limited, Campbell Chibougamau Mines Ltd. and Opemiska Copper Mines (Quebec) Limited.

Heath Steele Mines Limited, the only producer in New Brunswick, recovered silver from its base-metal operations but was forced to curtail its operations sharply in 1958. Buchans Mining Company Limited of Newfoundland also obtained silver from base-metal concentrates.

Development work involving silver values has been mentioned under the headings of Copper and Lead and Zinc. Projects of interest in 1957 and 1958 involved the Chisel Lake area, under development by Hudson Bay Mining and Smelting Co. Limited; the base-metal property of Consolidated Sudbury Basin Mines Limited; the zinc-silver-lead deposit of The Coniagas Mines Limited at Bachelor Lake, Que.; the drilling program undertaken by the Mattagami Syndicate at Watson Lake; and the zinc-lead-copper deposits near Bathurst which, for a time, were under study by Brunswick Mining and Smelting Corporation Limited, and by Nigadoo Mines Limited. Unfortunately the continuing slump in the base-metals market has forced some of these projects to be curtailed.

Uranium.—Uranium production registered spectacular gains in 1957-58. Annual output of the oxide soared from 2,281 tons at \$45,732,145 in 1956 to 6,635 tons at \$136,304,364 the following year; and preliminary figures for 1958 of 14,118 tons at \$290,228,356 show a continuation of the upward trend.

Ontario was the leading producer, its 1957 output of 3,985 tons accounting for about 60 p.c. of the Canadian total. During the year the two established Elliot Lake producers, Pronto Uranium Mines Limited and the Quirke Lake mine of Algom Uranium Mines Limited, operated at full capacity and were joined by five new mines. Coming into operation were Algom's Nordic mine, Consolidated Denison Mines Limited, the Buckles mine of Lake Nordic Mines Limited and Can-Met Explorations Limited. By the end of 1958 another five Elliot Lake mines reached the production stage: Northspan's Panel and Spanish American mines and those of Stanleigh Uranium Mining Corporation Limited, Milliken Lake Uranium Mines Limited and Stanrock Uranium Mines Limited. Thus Elliot Lake, capable of supplying some 13,000 tons a year, became the largest uranium-producing camp in the world.

In the Bancroft district, Bicroft Uranium Mines Limited was the only producer at the beginning of 1957 but was later joined by Faraday Uranium Mines Limited and Greyhawk Uranium Mines Limited, and in June 1958 by Canadian Dyno Mines Limited, bringing the total to four mines and three mills.

Saskatchewan's 1957 production of 2,231 tons valued at \$44,561,832 came from seven mines on the north shore of Lake Athabasca. Eldorado Mining and Refining Limited, Rix Athabasca Uranium Mines Limited, National Explorations Limited and Gunnar Mines Limited had been in production for several years; the others were Lorado Uranium Mines Limited (which opened a custom mill in August 1957), Cayzor Athabasca Mines Limited and Lake Cinch Mines Limited. In 1958 the area's three mills worked close to or beyond capacity. Eldorado's mill operated at 1,950 tons a day, Gunnar's at 2,000 and Lorado's at 600 tons a day.

Production of uranium oxide in the Northwest Territories in 1957 amounted to 419 tons. Eldorado Mining and Refining Limited continued to produce a precipitate and concentrate at its Port Radium mine, sending them to the company's refinery at Port Hope, Ont. In mid-1957 Rayrock Mines Limited began producing precipitate at its mine on Sherman Lake and operated a mill rated at about 150 tons a day.

In May 1958 Canada and the United States announced that surplus uranium stocks could be sold by mines to countries such as West Germany and Switzerland where bilateral agreements had been completed (ensuring that the uranium would be used only in peaceful projects). It is of technological interest that, during the year, uranium metal was produced for the first time in Canada by Eldorado Mining and Refining Limited.

Platinum.—Canada is also a leading producer of platinum metals. These occur in small amounts in the nickel-copper ores of Ontario's Sudbury district and are recovered in unrefined form from smelting and refining operations. International Nickel is the chief producer, recovering the metals at the company's refinery near London, England. Falconbridge Nickel Mines Limited, also operating nickel-copper mines near Sudbury, refines platinum metals at Kristiansand, Norway. Output of platinum in 1957 was at a postwar high of 199,565 oz.t. valued at \$17,835,124 and output of palladium, rhodium, iridium, ruthenium and osmium amounted to 216,582 oz.t. at \$7,896,209.

Titanium.—Canada's titanium industry is based almost entirely on the production of titanium-dioxide slag, the raw material used in the manufacture of pigments. The sole producer is Quebec Iron and Titanium Corporation, which, at Allard Lake, mined record quantities of ilmenite (an iron-titanium oxide) and, at Sorel, reached a new high in the production of slag. The company expanded its facilities considerably in 1957 but the following year was forced to curtail operations as the demand for titanium-dioxide pigments eased.

Cobalt and Tungsten.—Cobalt is found in the ores of the Sudbury area and is recovered by International Nickel and Falconbridge Nickel Mines Limited in the form of cobalt oxide or electrolytic cobalt. Other producers include Deloro Smelting and Refining Co. Ltd., which in 1957 processed ores from the Cobalt-Gowganda area of Ontario, and Sheritt Gordon Mines Limited, Fort Saskatchewan, Alta. Canadian production in 1957 reached a record 3,922,649 lb. valued at \$7,784,423.

Canadian production of tungsten in 1957 came from Salmo, B.C., where it was mined in the form of the oxide, scheelite. Shipments in 1957 totalled 1,921,483 lb., worth \$5,279,275, but were considerably lower in 1958 when demand for the metal slackened.

Selenium, Molybdenum and Magnesium.—Selenium is derived from the refining of blister copper by Canadian Copper Refiners Limited at Montreal, operating the largest selenium metal-and-salts plant in the world, and by International Nickel at Copper Cliff, Ont. Production in 1957 totalled 321,392 lb. valued at \$3,535,312.

Molybdenite Corporation of Canada Ltd., with a mine about 25 miles northwest of Val d'Or, Que., remained the sole producer of molybdenum in 1957. Shipments amounted to 783,739 lb. at \$1,166,557.

Canadian magnesium is produced by two companies from the minerals dolomite and brucite—Dominion Magnesium Limited mines a dolomitic limestone at Haley, Ont., and Magnesium Company of Canada Limited mines a brucite limestone at Wakefield, Que. Production for 1957 came to approximately 16,770,371 lb. valued at \$5,254,896.

Canada also produces small quantities of antimony, bismuth, cadmium, calcium, indium, tellurium and tin, largely as by-products in the refining of base metals.

Subsection 2.—Industrial Minerals*

Despite the recession in industrial activity and a number of labour strikes that affected production, the total dollar value of industrial minerals produced in Canada reached an all-time high of \$472,281,000 in 1958. Among the minerals and mineral products that reached new highs in tonnage or in value, or both, were salt, pyrite and pyrrhotite, nepheline syenite, sodium sulphate, sulphur, clay products, cement, lime, sand and gravel, and stone.

* Prepared under the direction of Dr. Marc Boyer, Deputy Minister of the Department of Mines and Technical Surveys, by M. F. Goudge, Chief of the Industrial Minerals Division, Mines Branch.

An event of outstanding importance was the initial production of potash from the vast deposits of Saskatchewan. Elemental sulphur was also produced in greatly increased amount and is now available in quantity for export. By the development of these basic resources Canada's production base is broadened and the country's position strengthened both in export markets and in the domestic manufacturing industries.

Potash.—An event of international importance was the initial production of potash in Saskatchewan late in 1958 by Potash Company of America Limited from its property at Patience Lake, 14 miles east of Saskatoon. Another company—International Minerals and Chemical Corporation (Canada) Limited—is sinking a shaft to the potash beds near Esterhazy in southeastern Saskatchewan and expects to be in production in 1960.

Potash Company of America reached the potash bed at a depth of 3,330 feet and found the character and quality of the potash to be equal to that indicated by core drilling. No difficulty is being experienced in the mining operations. The first potash has been successfully milled and operations are to be steadily increased until the output of fertilizer-grade material reaches 600,000 tons annually.

This development culminates years of investigation that began shortly after Imperial Oil Limited first reported the discovery of potash in 1943 during exploratory drilling for petroleum. A Canadian company—Western Potash Limited (now Continental Potash Corporation Limited)—was the first to start shaft sinking but, after reaching a depth of 1,675 feet in April 1958, work was stopped for lack of funds. The total amount being expended by the two other companies is expected to be between \$50,000,000 and \$60,000,000.

Commercial production of potash is being obtained at only two other places on this Continent—at Carlsbad, New Mexico, from bedded deposits, and at Searles Lake, California, from brine. The Carlsbad deposits, which have been the Continent's main source of potash, are approaching depletion and most of the major operating companies there have acquired properties along the Saskatchewan potash belt, now believed to be the largest and the richest source of potash in the world.

The deposits occur near the top of a great bed of rock salt of Devonian age that underlies most of the prairies. The potash is at depths of from 2,550 to 7,000 feet, but is nearest the surface (2,550 to 3,500 feet) along a belt 35 to 50 miles wide and nearly 400 miles long that extends diagonally across Saskatchewan from the Manitoba border north of Moosomin, to the Alberta border near Manito Lake. Potash of economic grade is not known to extend into Alberta but it does extend for at least 15 miles into Manitoba. The predominant potash mineral is sylvite (KCl) but in the vicinity of the Quill Lakes some beds of carnallite, the double salt of potassium and magnesium, over 30 feet thick have been found. Beds of intermixed sylvite and rock salt (referred to as sylvinite) over 10 feet thick and containing the equivalent of more than 25 p.c. of K_2O are common, and some beds containing the equivalent of 40 p.c. of K_2O are reported. The thickness and richness of the potash beds exceeds anything known elsewhere.

As a result of exploration and the data obtained from about 200 drilled wells, most of the activities of the 17 companies at present investigating the potash belt are concentrated in two main areas. The first of these extends from west of Saskatoon to the Quill Lakes. In this area Potash Company of America Limited is producing. The second area is south of Yorkton in the eastern part of the province. Near Esterhazy in this district, International Minerals and Chemical Corporation (Canada) Limited is sinking a shaft to the deposits which here are 3,000 feet beneath the surface. To these two main areas of activity may be added a third near Unity where Continental Potash Corporation Limited has holdings.

In an attempt to do away with the necessity of sinking a shaft costing from \$3,000,000 to \$4,000,000 through soft, crumbling and wet sedimentary rocks, one company is experimenting with a method of recovering the potash by a solution method. This method, if successfully worked out, would cheapen the cost of the potash and enable recovery to be made from the more deeply buried beds not considered of economic interest at the present time.

As results of exploratory drill holes become available, the estimates of the tonnage of high-grade potash that can be economically extracted are continually being raised. The most recent estimate is about 6,500,000,000 tons and this includes only material that is in beds 5 to 10 feet thick, grades 25 p.c. K_2O equivalent or better, and is recoverable by room-and-pillar mining which leaves 60 p.c. of the potash in the pillars. If a grade of 20 p.c. K_2O or better is considered, the estimate is increased to 8,000,000,000 tons, and if the deeply buried material is taken into account the estimates enter the realm of fantasy. It would seem that the availability of the Saskatchewan deposits has forever allayed any fear of a shortage of this indispensable mineral.

Sulphur.—Preliminary statistics indicate that in 1958 for the fourth year in succession a new record was set for production of sulphur in all forms in Canada. Production in that year amounted to 950,000 tons compared with 918,727 tons in the previous year.

The recent increase in plant capacity to produce elemental sulphur has been outstanding and production plans for the immediate future will make Canada one of the world's major producers. There are now 10 plants producing this all-important industrial raw material—one in British Columbia, four in Alberta, one in Saskatchewan, three in Ontario, and one in Quebec. The plants in Western Canada, where the greatest potential production is, all recover sulphur from sour natural gas. Those in Ontario recover sulphur along with other products from pyrite and pyrrhotite, and as a co-product in the refining of nickel. The plant in Quebec obtains elemental sulphur from waste gases of oil refineries and a chemical plant. In addition, sulphur in the forms of sulphuric acid and liquid sulphur dioxide is being recovered from smelter fumes and from pyrite and pyrrhotite.

The major source of Canadian elemental sulphur will be the sour natural gas of Western Canada. Some of the largest gas fields yield gas of this type, that is, gas containing a relatively high content of sulphur in the form of hydrogen sulphide. This hydrogen sulphide is toxic and corrosive and must be removed from the gas before it is fed to gas transmission lines. In this process the elemental sulphur is obtained. The content of hydrogen sulphide is as high as 37 p.c. in some of the gas fields and constitutes over 70 p.c. in one field not yet in production.

At the end of 1958, plants capable of producing 1,000 long tons of sulphur from natural gas were in operation in Western Canada, with others in course of construction. It is possible, if the present plans of gas transmission companies are carried out, that 1,000,000 tons of elemental sulphur will be produced annually from natural gas in Western Canada by 1961. However, much of this production must seek export markets since it is greatly in excess of current Canadian requirements and since transportation costs prevent it from competing with imports from the southern United States and Mexico in the main sulphur markets of Eastern Canada.

The newest source of pure elemental sulphur is that obtained as a by-product in the new process of direct electro-refining of nickel matte used by International Nickel at its Port Colborne, Ont., refinery. In view of the scale of operations at the refinery, a substantial quantity of sulphur will be available in the near future. International Nickel in co-operation with Texas Gulf Sulphur Company is also operating a pilot plant at the new iron-ore recovery plant at Copper Cliff, Ont., with the object of recovering elemental sulphur from the sulphur-rich gas.

The plants at Cutler and Port Robinson, Ont., operated by Noranda Mines Limited for the production of sulphur dioxide, elemental sulphur and sintered iron oxide from pyrite and pyrrhotite, are at present being run in such a way as to produce a maximum of sulphur dioxide and a minimum of sulphur because of the great demand for sulphuric acid from the fertilizer and uranium industries.

The new plant of Laurentide Chemicals and Sulphur Limited at Montreal is producing 100 long tons of sulphur a day from waste gases from oil refineries and a chemical plant. The sulphur is being sold mostly in a molten state to various industries in the Montreal area. Deliveries are made by insulated tank trucks.

Materials of Construction.—The record activity in construction during 1958 resulted in a great demand for materials of construction and the mineral industries supplying these operated at record levels.

Preliminary estimates show that nearly 168,000,000 tons of sand and gravel valued at \$97,500,000 were used in 1958. This tonnage was exceeded by that of no other mineral substance produced in Canada, and the value was exceeded by only six other mineral products. This great production came from some 8,000 pits scattered across the country. Part of the production consisted of manufactured sand made directly from limestone, sandstone, and other rocks, which must pass the strictest of specifications for use in concrete and is being used in ever-increasing amounts. It costs more than natural sand and it must be made adjacent to the structures in which it is to be used in order to keep transportation costs to a minimum. Most of the nearly 3,000,000 tons of sand used as fine aggregate in concrete for the St. Lawrence Seaway and Power Project was manufactured sand.

Crushed stone for use as aggregate in concrete was also produced in record amount in 1958 when an estimated 40,517,000 tons valued at \$57,700,000 was marketed. This production came from more than 500 quarries.

Gypsum was the only mineral connected with the construction industry to show a decline in production in 1958 but, even so, value was well up over the previous year; 4,043,364 tons valued at \$8,302,037 were produced in 1958 compared with 4,577,492 tons valued at \$7,745,105 in 1957. The reason for the decline in production was a prolonged strike at the quarries of the largest producer at Windsor, N.S. This is also an area where cost of production is low and that accounts for the increase in value per ton. The quarries in Nova Scotia are among the largest in the world. Almost all the production is shipped by boat to gypsum plants along the Atlantic coast of the United States where it is made into various products. Gypsum is also quarried in Newfoundland, New Brunswick, Ontario, Manitoba and British Columbia. The principal products made are wallboard, wall plaster, sheathing board, lath and tile. The use of gypsum has developed phenomenally in the past few years.

The Portland cement industry, which has plants in all provinces except Nova Scotia and Prince Edward Island, also achieved a record production in 1958 of 6,068,977 tons valued at \$95,869,547. The industry has expanded threefold since the end of World War II but, even so, was unable until 1957 to supply all the domestic demand and large imports were necessary. In 1958 imports were only nominal and were greatly exceeded by exports. Two new companies entered the Canadian Portland cement industry in 1958. These were Lafarge Cement of North America Limited at Vancouver, with a plant designed to produce 1,300,000 bbl. per year, and Lake Ontario Portland Cement Company at Picton, Ont., with a plant rated at 1,800,000 bbl. a year. Canada now has what is probably the highest per capita output of cement of any country, indicative of the high level of industrialization in this country.

Sales of clay products made from domestic clays totalled \$42,611,899 in 1958, the highest on record. In addition products valued at \$20,656,000 were made from imported clays. About 200 plants scattered through all provinces except Prince Edward Island, are engaged in making clay products in this country. The products include brick, tile, ceramic pipe, pottery, porcelain and certain types of refractories. A program of modernization in effect throughout the industry has been speeded up in the past year or two in order to take advantage of natural gas as fuel for kilns.

An industry closely allied to the clay products industry is that engaged in the manufacture of light-weight aggregates made from clay, shale, slag, perlite and vermiculite. When used with cement they give concrete and plasters that are only one-half to two-thirds the weight of the conventional products and thus by reducing the weight of structures in which they are used, such as bridges and tall buildings, they enable important savings to be made in the structural steel frameworks. The light-weight aggregate industry has

developed most rapidly on the prairies where ordinary aggregates such as stone and gravel are not plentiful, but there are a number of important plants in Eastern Canada and in 1958 large new plants were under construction in Quebec and British Columbia.

The lime industry had a record production in 1958 when 1,612,761 tons valued at \$20,439,311 were marketed. Although lime is important as a structural material its uses for chemical purposes have become paramount and now only 10 to 15 p.c. of the output goes into construction. A major factor in the increase in sales of lime in 1958 was the demand from the Ontario uranium industry.

Asbestos.—Sales of asbestos fibre decreased to 942,135 tons valued at \$96,168,029 in 1958 from record sales of 1,046,086 tons valued at \$104,489,431 in the previous year. Capacity to produce asbestos is still growing, however, and during the latter half of 1958 three new mills came into production in the Eastern Townships of Quebec which will have the capacity to increase the industry's output by 13 p.c. and the world's output by nearly 9 p.c. These new mills are the 5,000-ton-per-day mill of Lake Asbestos of Canada Limited at Black Lake, the 3,000-ton mill of National Asbestos Mines Limited, and the 2,500-ton mill of Carey Canadian Mines Limited, both at Thetford Mines. The latter mill replaces that of the former Quebec Asbestos Corporation which ceased production when the new mill was in full operation.

In other parts of Canada, outside the main asbestos-producing area of Quebec, developments were also going forward. In Newfoundland \$1,000,000 or more is to be spent in readying for production a large chrysotile asbestos deposit in the Baie Verte district of the Burlington Peninsula on the east coast. Reserves are estimated at 23,300,000 tons. This development is being undertaken by Advocate Mines Limited, and is being financed jointly by Canadian Johns Manville Company Limited, Patino Limited of Canada, Amet Corporation Incorporated, and Financière Belge de l'Asbestos Ciment S. A. Johns Manville is to manage and operate the project. The other firms are large users of asbestos in Europe and elsewhere.

Production of asbestos by Cassiar Mines Limited at Cassiar in northern British Columbia continues to increase rapidly. The company has acquired control over three additional deposits of chrysotile in northern British Columbia and Yukon and will be undertaking development work on them in the near future. Another discovery of asbestos was made in the Dease Lake district of British Columbia at the close of the year.

Salt.—In keeping with the growth of the chemical industry of which it is a very important raw material, the production of salt has increased rapidly in the past few years, having nearly doubled since 1953. The 1958 production was a record 1,863,866 tons valued at \$15,482,850. Exports to the United States of 406,563 tons also constituted a record. Prior to 1955 exports of salt from Canada were very small, but in that year Canadian Rock Salt Company began the production of rock salt from a new mine at Ojibway, Ont., at the rate of 500 tons per hour, most of which was exported by boat to the United States. Exports were further increased in 1958 when concentrated brine from the same company's property was exported to the Detroit area through a pipeline buried in the bed of the Detroit River. Another salt mine will be operated at Pugwash, N.S., by Malagash Salt Company, a subsidiary of Canadian Salt Company, Montreal, when shaft-sinking difficulties have been overcome. Dominion Tar and Chemical Company Limited of Montreal, through its subsidiary Sifto Salt Limited, is sinking a shaft near Goderich, Ont., with the intention of mining a 20-foot bed of pure rock salt found in that locality. Thus rock salt is becoming by far the most important product of the industry. Prior to 1955 all of the salt produced in Canada with the exception of the output of the Malagash Salt Company in Nova Scotia was obtained by introducing water to deeply buried salt beds and pumping up the resultant brine which was used as such by nearby industries or the salt was recovered from it by evaporation. Rock salt is a much cheaper product than evaporated salt and it or the brine is the preferred raw material for salt-using chemical industries engaged in making caustic soda, chlorine and other products.

Salt is produced in Nova Scotia, Ontario, Manitoba, Saskatchewan and Alberta, though only in Nova Scotia and Ontario is it being mined. There are twelve plants operated by seven firms in the Canadian industry.

Fluorspar.—Until 1956, fluorspar mining was a flourishing industry in Newfoundland and Ontario. Over 55 p.c. of the production was exported to the United States chiefly for stockpiling purposes. Stockpiling needs are now filled and value of production dropped from \$3,407,582 in 1956 to \$1,552,255 in 1958. Imports of low-cost fluorspar from Mexico have displaced much of the Canadian fluorspar in the domestic market and what was formerly the largest producer—St. Lawrence Corporation of Newfoundland Limited—closed down its mine at St. Lawrence, Nfld., in 1957. The other large producer—Newfoundland Fluorspar Limited—is a subsidiary of Aluminum Company of Canada and operates to supply the requirements of the parent company. The third producer Huntingdon Fluorspar Mines Limited at Madoc, Ont., produces small quantities of high-grade fluorspar for metallurgical purposes.

Spodumene.—Production of lithia concentrates from spodumene by Quebec Lithium Corporation at Val d'Or, Que., was valued at \$2,643,950 in 1956, rose to \$2,827,143 in 1957 and dropped to \$2,030,000 in 1958. Almost the entire output of the company was sold under contract to Lithium Corporation of America at Bessemer City, North Carolina, for processing for use by the United States Atomic Energy Commission. Following the slowing down in purchases from the United States, the Canadian company plans experimentation in a large pilot plant at Val d'Or with the object of processing spodumene concentrates into lithium chemicals and of developing its own sales outlets direct to consumers.

Uses for both lithium minerals and for fluorspar are expanding. In particular, much is being heard of the use of liquid fluorine as a fuel in a new rocket engine where it is hailed as a major breakthrough in chemical fuels for rockets, displacing boron for the purpose. Its use in quantity as a high-energy propellant is claimed to be close at hand.

Subsection 3.—Petroleum and Natural Gas*

As a result of decreased demand for petroleum and its products, development of Canada's petroleum resources slackened towards the end of 1957 for the first time since the 1947 Leduc discovery. Interest in natural gas development, however, softened the downward trend in the industry. Nevertheless, during the first three-quarters of the year more petroleum and natural gas were produced than ever before and reserves of both commodities continued to rise. At the end of 1957 reserves of crude oil and natural gas liquids totalled 3,269,114,000 bbl., an increase of 139,810,000 bbl. over the previous year. Natural gas reserves increased by 500,000,000,000 cu. feet to over 25,000,000,000,000 cu. feet at the end of 1957. Crude oil has, since 1953, maintained the lead in annual production value among all minerals produced in Canada. Natural gas will add appreciably to this total, beginning in 1958 when the two major gas transmission lines were completed, connecting the gas sources in the West to markets from the Pacific to as far east as the province of Quebec. Production of crude oil was a record in 1957 but the increase over the previous high in 1956 was only 5 p.c.; production in 1958 was about 8 p.c. lower than in 1957.

The size and rate of recent growth of crude oil production in Western Canada is indicated by the following data:—

<i>Item and Date</i>	<i>Alberta</i>	<i>Saskatchewan</i>	<i>Manitoba</i>	<i>British Columbia</i>
NUMBER OF OIL FIELDS—				
December 1954.....	65	30	6	0
December 1955.....	74	37	11	1
December 1956.....	86	46	12	2
December 1957.....	89	39	12	4

* Prepared under the direction of Dr. Marc Boyer, Deputy Minister of the Department of Mines and Technical Surveys, by R. A. Simpson, Mineral Resources Division. A survey of oil and gas pipelines will be found in the Transportation Chapter.

<i>Item and Date</i>	<i>Alberta</i>	<i>Saskatchewan</i>	<i>Manitoba</i>	<i>British Columbia</i>
NUMBER OF OIL WELLS—				
December 1954.....	5,068	1,094	284	3
December 1955.....	6,138	1,655	554	4
December 1956.....	7,390	2,414	736	9
December 1957.....	8,015	3,240	846	20

Expenditures in Western Canada on exploratory and development activities totalled almost \$550,000,000 in 1957. At the end of the year land held totalled 215,000,000 acres, 42 p.c. of which was in Alberta, 25 p.c. in Saskatchewan, 17 p.c. in the Territories, 13 p.c. in British Columbia and the remainder in Manitoba.

Geophysical activity declined in 1957, as it has each year since 1953, and amounted to 1,338 crew months. Work in Alberta accounted for 69 p.c., Saskatchewan 20 p.c. and Manitoba 11 p.c. Altogether, 3,057 wells were drilled—1,911 oil wells, 187 gas wells and 972 dry holes. An average of 204 rigs operated in Western Canada during the year and the average depth of well drilled was 4,700 feet.

Details of oil and gas field activities by province during 1957 and the first half of 1958 follow. Some production estimates for the year 1958 are included.

British Columbia.—The development of the northeastern section of British Columbia is being continued at a rapid rate and, although the chief search at present is to prove more gas reserves, oil is being found. Reserves of natural gas in this area have been placed at over 4,000,000,000 cu. feet. Ninety-two wells were drilled in British Columbia during 1957—11 were successful oil wells, 41 successful gas wells and 40 were dry holes. At the end of the year the province had four oil fields as compared with two in 1956 although production continued to come only from the Boundary Lake and Fort St. John fields. One gas field, the Dawson Creek field, was discovered during the year.

Alberta.—Production of crude oil in Alberta in 1957 amounted to 137,492,316 bbl., more than 6,000,000 bbl. less than in 1956. This was the first time since 1947 that output did not exceed that of the previous year, and the downward trend continued in 1958 when the total was estimated at 112,300,000 bbl.

Development drilling declined a marked 37 p.c. in 1957. Drilling in the huge Pembina field, which in 1956 accounted for almost half of the province's total number of wells, added only 286 wells, to bring the field total to 1,974 wells. The near drilling-out of this field was the major factor in the decline in development drilling; other oil fields rapidly developed during the year included the Keystone, Innisfail, Willesden Green, Harmattan, Sturgeon Lake South and other fields where fewer than 20 successful wells were drilled.

Although development was down from earlier years, exploratory drilling increased by 10 p.c. Of the 113 successful exploratory wells, 21 were new field discoveries. Of the many oil discoveries, the most significant were those in the Virginia Hills, about 120 miles northwest of Edmonton, and at Innisfail, 60 miles north of Calgary. The Virginia Hills discovery was the first well ever to find commercial oil in the Slave Point formation and touched off the exploration which later resulted in further Slave Point discoveries at Swan Hills, Edith Lake, and Kaybob in the area northwest of Edmonton and south of Lesser Slave Lake. The D-3 discovery at Innisfail was followed by extensive development work and was designated a field in November. Also of importance was the Joffre D-2 pool in which 20 wells were drilled during the year.

During 1957, 125 successful gas wells were completed, 70 of them being exploratory and the others development wells. At the end of the year Alberta had 584 gas wells capable of production and 766 capped gas wells. Of the successful exploratory wells, several were significant. The more important discoveries, in terms of reserves, were made in the Calgary, Carson Creek, Keystone, Lambert Creek, Lovett River, Pine Creek and Stolberg areas.

The most significant step-out of a previously discovered pool took place in the Waterton-Castle River area. Following the discovery of gas in the Mississippian formation in 1956, two nearby 'wildcat' wells, one at Castle River and one at Gladstone Creek, were successfully completed in the same horizon in 1957. More recently, two further exploratory tests indicate success and the possibility of a gas field rivalling Pincher Creek in importance. The discovery of the Pine Creek and Waterton reserves account for over one-half of the increase attributed to new discoveries. Reserves of natural gas were raised to 21,100,000,000 cu. feet in 1957 and by Mar. 31, 1958, established reserves had been raised to 22,500,000,000 cu. feet or the equivalent of 23,300,000,000 cu. feet when converted to a common heating value of 1,000 B.t.u. per cu. foot.

A number of Alberta's fields produce condensate gas and during 1957 the daily capacity of natural gas processing facilities was increased from 401,000,000 to 521,000,000 cu. feet. The number of processing plants in operation increased from 10 in 1956 to 12 in 1957, with five more under construction. In addition, the Pincher Creek plant doubled its capacity in 1958 to 120,000,000 cu. feet daily when it was linked with the Trans-Canada pipeline, and total plant capacity to process 'wet' gas then reached 862,000,000 cu. feet daily.

Saskatchewan.—Production of crude oil in Saskatchewan in 1957 totalled 36,861,089 bbl. and in 1958 an estimated 46,500,000 bbl., the latter figure being almost double the 1956 production. This increase, particularly in a period when the national output was down, can be attributed to the preferred geographical location of the province, compared with Alberta, in relation to markets in Ontario and central United States. Drilling activity continued at a rapid rate and in 1957, for the first time, Saskatchewan had more oil well completions than Alberta, bringing in a total of 893 new wells. There were 33 oil discoveries, most of which served to extend field boundaries or to fill in non-producing parts of established areas. The important Midale oil discovery in southeastern Saskatchewan in 1953 has led to the finding by May 1958 of a total of 18 fields in this area. These fields are being developed on the northern rim of the Williston Basin, a large structural feature with its centre in North Dakota. Oil occurs in limestone of Mississippian age at depths from 3,100 to 5,400 feet, the average being approximately 4,100 feet. Increased production of light gravity crude made up over 13,000,000 bbl. of the 16,000,000-bbl. increase in annual production.

Producing fields on the west side of the province are in the vicinities of Lloydminster, Kindersley and Swift Current. With the exception of the comparatively small Smiley field, all are either heavy or medium gravity crude oil fields. Oil fields in these areas produce from sandstone formations of Lower Cretaceous and Jurassic ages and the average well depth is 3,000 feet. Production of medium gravity crude accounted for over 3,000,000 bbl. of the increase of the 1957 production over 1956, while production of heavy gravity crude was down by over 500,000 bbl.

All natural gas reserves are in fields on the west side of the province and occur predominantly in formations of Cretaceous age. Five gas discoveries were made in 1957 and 12 field development wells were drilled. Saskatchewan's natural gas resources are much smaller than those of Alberta or British Columbia and all are reserved for use within the province.

Manitoba.—Oil production in Manitoba was up slightly in 1957 with 6,089,743 bbl. of crude oil being produced. During the year 224 wells were drilled, 127 of which found oil and 97 were dry. Of the 224 wells, 153 were development wells drilled mostly in the North Virden, Virden-Roselea and Daly fields which accounted for almost 85 p.c. of the provincial production. The testing of the Devonian and older formations in the area east and north of the Mississippian truncation, which was begun in 1956, was continued but without success. The 1958 total production was down slightly at an estimated 5,900,000 bbl.

Yukon and Northwest Territories.—The small production from the Northwest Territories comes from the Norman Wells field on the Mackenzie River, 90 miles south of the Arctic Circle. Crude oil from this field supplies a small refinery located there. Only

four wells were drilled in the Northwest Territories, one of which found gas and three were dry holes. All were in the area southwest of Great Slave Lake. The drilling of one well in Yukon was suspended. Production in 1957 amounted to 420,844 bbl. and in 1958 to an estimated 471,000 bbl.

Eastern Canada.—Drilling in Ontario continued at the same rate as in previous years; 421 wells were drilled, 46 of which found oil, 162 found gas and 213 were dry. Only two discoveries were made, the remainder being development wells, but these were not significant. Production of crude oil amounted to 623,666 bbl. which increased to an estimated 770,868 bbl. in 1958. A total of 14,400,000,000 cu. feet of natural gas was produced. The continuing search for natural gas led to eight discoveries during the year. Development drilling brought in an additional 154 successful gas wells.

In New Brunswick, production of crude oil amounted to 19,401 bbl. in 1957. Two wells were drilled, one of which found natural gas and the other was dry. Gas production accounts for 85 p.c. of the value of production from the province's single oil and gas field at Stoney Creek. Oil production decreased to approximately 15,400 bbl. in 1958.

Two wells were drilled in the St. Lawrence Lowlands between Montreal and Quebec in 1957, both of them unsuccessful.

Petroleum Refining and Marketing.—There was no change in the number of operating petroleum refineries in Canada in 1957 although two refineries were under construction, both scheduled for completion late in 1958. The 43 plants across the nation had a total capacity of 761,895 bbl. a day. The rate of growth of the refining industry is shown in the following tabulation.

PETROLEUM REFINING THROUGHPUT CAPACITY, BY REGIONS

Region	1939		1950		1957	
	Barrels per Day	P.C.	Barrels per Day	P.C.	Barrels per Day	P.C.
Maritime Provinces.....	32,750	16.4	22,300	6.2	44,300	5.8
Quebec.....	64,500	32.2	143,000	39.9	255,800	33.6
Ontario.....	44,500	22.2	75,200	21.0	198,510	26.1
Prairie Provinces and N.W.T.....	35,570	17.8	89,525	24.9	189,035	24.8
British Columbia.....	22,700	11.4	28,850	8.0	74,250	9.7
CANADA.....	200,020	100.0	358,875	100.0	761,895	100.0

The progress made in the marketing of Canadian crude oil in Canada is indicated by the following figures.

PERCENTAGES OF CANADIAN CRUDE OIL RECEIVED AT REFINERIES

Region	1939	1947	1950	1957
	p.c.	p.c.	p.c.	p.c.
Maritime Provinces.....	—	—	—	—
Quebec.....	—	—	—	—
Ontario.....	0.4	0.5	1.0	86.1
Prairie Provinces and N.W.T.....	37.0	99.5	99.0	100.0
British Columbia.....	—	—	—	100.0
CANADA.....	17.0	8.5	24.4	53.2

Crude oil delivered from domestic oil fields to refineries in Canada totalled 126,914,237 bbl. in 1957; 111,706,671 bbl. were imported to supply the refineries in the Maritimes and Quebec, although a small percentage was delivered to refineries in Ontario.

All exports of Canadian crude oil, except small shipments totalling 92,000 bbl. to Japan, went to the United States. The total amount of crude oil delivered out of Canada for foreign use was 55,674,228 bbl. The State of Washington took 49.4 p.c., California 12.9 p.c. and Minnesota, Wisconsin and Michigan together, 37.7 p.c. In mid-1957, the United States imposed 'voluntary' import restrictions on crude oil entering areas east of the Rocky Mountains. In December, the remainder of the United States was also brought into the program but, since demand had been low for Canadian crude from all its traditional United States markets, the import restrictions had no immediate effect.

Natural Gas Marketing.—The domestic market for natural gas exceeded the original estimates of both the major gas transmission pipelines in Canada. Both were planning programs to increase capacities earlier than had been contemplated. Other companies were requesting permission to move large quantities of natural gas southward from Alberta, although surplus reserves had not reached sufficient proportions to meet the requirements of the envisaged plans. Nevertheless, increased interest in Canadian natural gas, particularly for export to the United States, served to accelerate exploration.

Subsection 4.—Coal*

Although there appeared to be a stabilizing trend in the coal industry during 1955 and 1956 the increasing conversion to oil and gas by the railways, various industries and commercial and household consumers, aided by the generally milder winter and recession in 1957, resulted in further reverses to the industry.

In 1957 the industry recorded its greatest loss of the past seven years, production dropping to 13,189,155 tons—11.6 p.c. from 1956 and 31.1 p.c. from the record of 19,139,112 tons in 1950. With the exception of the depression years of 1931 to 1933, the 1957 production was the lowest since 1912. Of the 1957 output 68.6 p.c. was bituminous coal, 14.3 p.c. subbituminous and 17.1 p.c. lignite. Nova Scotia contributed about 43 p.c. of the total, Alberta 24 p.c., Saskatchewan 17 p.c., British Columbia and Yukon over 8 p.c. and New Brunswick just over 7 p.c. Every province showed a decrease in production. Whereas Nova Scotia, New Brunswick, Saskatchewan, British Columbia and Yukon showed, collectively, a decrease of almost 6 p.c. compared with 1956, Alberta's output decreased by 27 p.c.; bituminous coal, most of which goes to the railways, accounted for 68 p.c. of this decrease.

The apparent total consumption of coal in Canada decreased from 36,313,144 tons in 1956 to 31,516,119 tons in 1957, a drop of 13.2 p.c. Whereas in 1956 over 61 p.c. of the coal consumed was imported, in 1957 the percentage was down to somewhat less than 60, of which about 81 p.c. was bituminous coal used in Central Canada. Coal imports decreased by almost 14.2 p.c. from 1956, while the indigenous production decreased by only 11.6 p.c. Coal sales made by retail fuel dealers decreased 14.0 p.c. from 1956, railway coal decreased by over 40 p.c., and coal used for industrial purposes increased about 1.0 p.c. Thus though sales of coal for household, commercial and railway purposes are continuing to yield to liquid and gaseous fuels, industrial coal consumption is slowly increasing.

The consumption of briquettes, of which about 77 p.c. are made from bituminous coal, decreased sharply from 879,208 tons in 1956 to 467,825 tons in 1957. About 61 p.c. of the amount marketed (73 p.c. of the Canadian output) was used by railways in Western Canada mainly as locomotive fuel. However, the railway market for this type of fuel was reduced from 620,000 tons in 1956 to 287,000 tons in 1957. On the other hand, household and commercial consumption showed an increase from 159,208 tons to 180,768 tons despite increased competition from oil and gas.

Although the coal industry's economic position has been weakened, greater efforts are being made not only to maintain but to improve its competitive position in the market by reducing costs of production, improving quality, and tailoring the types and grades of coal to suit varied consumer requirements. Mechanization of underground mining is progressing especially in eastern collieries where most of the coal is mined mechanically. The Dosco "miner" is used in practically all the mines of the Dominion Coal Co. Ltd., on longwall faces, and other machines of the ripper type suitable for room and pillar mining are also employed. In addition, a boring type miner was introduced in one of the smaller mines in Nova Scotia. Continuous mechanical mining is being experimented with

* Prepared under the direction of Dr. Marc Boyer, Deputy Minister of the Department of Mines and Technical Surveys, by E. Swartzman, Fuels Division of the Mines Branch.

on western Canadian bituminous coal. However, because of technical and engineering problems associated with the steepness of coal seams and the friability of the coals, such mining methods have not yet been established.

Strip mining, practised in all provinces except Nova Scotia where suitable conditions for such mining are practically non-existent, also aids in reducing costs. Almost 35 p.c. of Canada's 1957 output was produced by this method. The whole of Saskatchewan's lignite output was strip mined, almost 81 p.c. of New Brunswick's, about 44 p.c. of Alberta's and 15 p.c. of British Columbia's. On an average the output per man-day in strip mining increased from 13.3 tons in 1956 to 14.5 tons in 1957, compared with an increase from 2.8 tons to 2.9 tons for underground mining. The over-all output per man-day increased by over 2 p.c.

In an effort to produce better quality coals of greater versatility the industry continues to direct attention to the use of modern methods of cleaning, drying, dust- and freeze-proofing and briquetting. Additional facilities for cleaning and drying various sizes of coal, including fines, have recently been installed at various collieries in both Eastern and Western Canada.

Assistance given to the coal industry by the federal Department of Mines and Technical Surveys is covered at pp. 513-514 under Federal Government Aid.

Details on coal in the respective coal-producing provinces follow.

Nova Scotia and New Brunswick.—Nova Scotia produces high-volatile and medium-volatile bituminous coking coals in the Sydney, Cumberland and Pictou areas and some non-coking bituminous coal in the Inverness area. Production in 1957 was somewhat lower than in 1956, amounting to 5,685,770 tons valued at \$9.300 per ton. Many of the operations have been mechanized in order to reduce production costs. The Dominion Coal Co. Ltd. plan to establish a very large central cleaning plant for their output in the Sydney area, and the Four Star Collieries Ltd., in the Broughton area, are also planning the establishment of a cleaning plant to beneficiate their coal. When these are completed, over 80 p.c. of Nova Scotia's coal production will be beneficiated by modern methods of cleaning.

New Brunswick coal output comes mainly from a single thin seam of high-volatile bituminous coal in the Minto area. Output decreased from 988,266 tons in 1956 to 976,597 tons in 1957 valued at \$8.386 per ton. In 1955 the first mechanical coal-cleaning plant for cleaning 2 x 0-in. slack was established in this area. As a result of its success from a technical and coal-marketing viewpoint, a second plant to clean 6 x ½-in. coal was placed in operation in 1957. These two plants allow for the cleaning of over 34 p.c. of the total output of New Brunswick. Both plants are equipped with modern mechanical and thermal drying machines.

Much of the output of the two provinces is used locally for industrial and domestic purposes. The remainder, amounting in 1957 to about 43 p.c. of the output, was shipped to Central Canada for commercial, industrial and railway use. The quantity used for thermal power production increased substantially during the year.

Saskatchewan.—This province produces only lignite coal from the Bienfait and Roche Percée fields in the Souris area. Production decreased slightly in 1957, amounting to 2,248,812 tons as against 2,341,641 tons in 1956. The coal was valued at \$1.956 per ton at the mine. Approximately 51 p.c. of the production was shipped to Manitoba and about 14 p.c. to Ontario for industrial, commercial and household use. With the extensive developments in progress for the production of thermal power in Saskatchewan and Manitoba, it is expected that lignite production will increase sharply.

The output of briquettes, which are made from carbonized lignite and used entirely for household and commercial purposes, increased slightly to 40,935 tons in 1957.

Alberta.—Almost all types of coal are produced in Alberta including a growing tonnage of semi-anthracite from the Cascade area. Medium-volatile bituminous coking coal is produced only in the Crowsnest area and output was seriously curtailed during 1957.

Lower-rank bituminous non-coking coals are produced in the Lethbridge and Coalspur areas and in several other areas of the foothills. The coal in the Drumheller, Edmonton, Brooks, Camrose, Castor and Carbon areas is subbituminous and that in the Tofield, Redcliff and several other areas is on the border of subbituminous and lignite. All these lower-rank coals were used mainly for household and commercial purposes but their industrial use is increasing, especially in thermal power production.

Production declined in the province from 4,328,787 tons in 1956 to 3,156,546 tons in 1957. Since the discovery of the Leduc oil field in 1947, coal output has dropped by almost 61 p.c. About 60 p.c. of the 1957 output was subbituminous coal. The production of bituminous coal decreased by about 39 p.c. and that of subbituminous coal by about 17 p.c. Average value of bituminous coal was \$6.466 per ton and subbituminous \$4.864. During 1957 a large producing mine was closed down in the Lethbridge area.

The output of briquettes, which are made from the semi-anthracite and low-volatile bituminous coals of the Cascade area and the medium-volatile bituminous coals of the Crowsnest area, was sharply reduced to 269,147 tons in 1957 compared with 525,202 tons in 1956.

Of the total production of all the coals mined only about 2.2 p.c. was shipped to Central Canada to be used mainly for commercial purposes. About 7.8 p.c., consisting to a large extent of subbituminous coal, was shipped to Manitoba, 21.5 p.c. to Saskatchewan and 21.4 p.c. to British Columbia, for both industrial steam-raising and household use.

British Columbia.—Bituminous coking coal, ranging from high to low volatile, is mined on Vancouver Island and in the East Kootenay (Crowsnest), Telkwa and Nicola areas. Small quantities of subbituminous coal are produced in the Princeton field. Mining on Vancouver Island was confined almost entirely to one mine in the Comox area. Production in 1957 amounted to 1,113,699 tons, a decrease from the 1,472,519 tons produced in 1956. The average value of British Columbia bituminous coal was \$5.924 per ton. Of the total production over 19 p.c. was shipped to Manitoba and about 8 p.c. to Ontario.

Medium-temperature oven (by-product) coke for industrial consumption is manufactured chiefly in the Crowsnest area. The single briquetting plant in the province produced over 84,000 tons of railway briquettes in 1957 as against 188,000 tons in 1956. A quantity of coking coal from the Crowsnest area was exported to southwestern United States for blending in the manufacture of metallurgical coke.

Section 2.—Government Aid to the Mineral Industry*

Subsection 1.—Federal Government Aid

The Department of Mines and Technical Surveys.—The federal Department of Mines and Technical Surveys came into being on Jan. 20, 1950, in the re-organization of the former Department of Mines and Resources. The Department has five branches—Surveys and Mapping Branch, Geological Survey of Canada, Mines Branch, Dominion Observatories, and Geographical Branch. The Department's functions include the administration of the Emergency Gold Mining Assistance Act and of the Explosives Act.

Surveys and Mapping Branch.—The Branch provides the base maps required for use in the development of Canada's natural resources, produces and distributes all Canadian aids to navigation, is responsible for legal surveys of federal lands and provides a national system of levelling and precision surveys for use as geodetic control by federal, provincial and private agencies.

The Geodetic Survey provides the original surveys that form the framework or basic control for mapping throughout Canada and for engineering and surveying projects related to natural resources development. Survey stations are established at fairly regular

* Revised, under the direction of the Deputy Minister, in the Editorial and Information Division, Department of Mines and Technical Surveys, Ottawa.

intervals across Canada and are marked by permanent monuments whose latitudes, longitudes and elevations above mean sea level are determined with a high degree of accuracy.

The Topographical Survey provides topographical maps that show all significant natural and artificial features fundamental to the study and economic development of mineral and other natural resources. The Field Survey Section is responsible for the field surveys that provide ground control for mapping from aerial photographs, and the Air Surveys Section plots and produces maps from these aerial photographs. The National Air Photographic Library indexes, preserves and distributes prints of all aerial photography done by or for the Federal Government. The Topographical Survey also administers the Canadian Board on Geographical Names.

The Legal Surveys and Aeronautical Charts Division makes and records legal surveys of federal Crown lands in the Yukon and Northwest Territories, the National Parks and Indian lands and reserves. This Division prepares aeronautical charts and electoral maps and prepares and distributes flight manuals.

The Canadian Hydrographic Service is responsible for the charting of the coastal and inland navigable waters of Canada, the analyses of tides and tidal current phenomena and the investigation of water-surface elevations of the St. Lawrence-Great Lakes waterway. The resultant data are published in the form of official navigation charts, volumes of Sailing Directions, Tide Tables and Water Level Bulletins.

The Map Compilation and Reproduction Division prepares, drafts and reproduces maps, charts and plans for lithographic printing in multicolour. The work includes the preparation and photo-reproduction of air chart bases, the reproduction and printing of air information for aeronautical charts, the preparation and printing of topographic maps and the reproduction and printing of hydrographic charts.

The Branch had 13 geodetic, 27 topographic, 15 legal survey and 20 hydrographic parties in the field in 1958.

Geological Survey of Canada.—The primary function of the Geological Survey is to obtain information on the geology of Canada that will be of assistance in the search for and development of mineral deposits. The results of its activities also provide a basis for the appraisal and conservation of Canada's mineral resources generally, including water supplies, for soil surveys, and for the solution of geological problems that frequently arise in construction projects. Reports issued by the Geological Survey include: memoirs with fairly complete descriptive accounts of the geology of particular areas, usually accompanied by geological maps; bulletins dealing with problems rather than areas; papers issued as soon as possible after the close of the field season, treating separately of each area and summarizing the information acquired; and the Economic Geology Series dealing in a comprehensive way with mineral deposits of a particular type. Information circulars, issued in advance of the more detailed reports, contain data of immediate interest to prospectors. Coloured geological maps are issued on various scales from one inch equalling a few hundred feet to one inch equalling eight or more miles, the common standard scales being one inch to one mile and one inch to four miles. Preliminary maps showing the geology are issued shortly after the field season ends for those areas where the search for metals or minerals is active. Metallogenic maps show the Canada-wide distribution of known occurrences of particular metals classified according to the type of deposit.

The Precambrian Division is responsible for mapping and studying the rocks of the Canadian Shield and of the Arctic Islands. These studies help to establish the geological history and structure of the regions and the information is used as a guide in the search for mineral deposits.

The Post Precambrian Division is responsible for mapping and studying the rocks of the Appalachian and Cordilleran regions and the unconsolidated materials throughout Canada. The application of geology to engineering problems and the study of Canada's groundwater resources are also the responsibility of this Division.

The Fuels and Stratigraphic Geology Division includes stratigraphic palaeontology, the geology of fuels (oil, natural gas and coal), subsurface geology, and research on coal. Its function is to establish the character, age, thickness and correlation of both exposed and concealed sedimentary formations and to map the distribution and structure of these formations with the object of determining the economic possibilities of prospective oil, gas and coal bearing areas of Canada.

The Mineralogy Division makes mineralogical, geochemical, petrological, and isotopic studies of Canadian mineral deposits and associated rocks. Laboratories provide mineral identifications for the public, supply officers of the Survey with mineralogical, geochemical and geochronological data, and permit research on the genesis of ores, fuels and rocks. Systematic mineral collections are maintained and mineral and rock collections are prepared for use by prospectors and educational institutions.

The Mineral Deposits Division conducts special field studies on the geology of mineral deposits with particular regard to economic possibilities, origin, distribution and the establishment of clues for prospecting for similar deposits. Reports and other information on the geology of Canadian mineral deposits are compiled and special reports on deposits and prospecting are published. The Division acts as official agent of the Atomic Energy Control Board in conducting research on uranium deposits and in receiving and compiling reports from companies operating under exploration and mining permits from the Board, and maintains a laboratory for making radiometric assays and identifications of radioactive minerals.

The Geophysics Division gathers, compiles and interprets geophysical data relating to the geology of Canada. Fundamental research is carried out in some phases of geophysical work.

In 1958 the Geological Survey had 77 parties in the field—a working force of 360 men.

Mines Branch.—Investigations undertaken in Branch laboratories cover a wide range of technical projects of importance to the advance of fundamental research; to the processing of ores, industrial minerals and fuels on a commercial scale; and to the theory and practice of physical metallurgy.

The Mineral Dressing and Process Metallurgy Division serves Canada's mineral industry through tests, investigations and research on all types of Canadian ores. The main purposes of these activities are to devise economic and efficient methods of processing ores—a service of special benefit to new mining ventures and particularly to those developing low-grade or complex deposits—and to assist mine operators in solving problems encountered in mill practice.

The work of the Radioactivity Division is centred on investigations relating to treatment of radioactive and less common ores. Activities include research on ore treatment and chemical process methods, provision of chemical and radiometric assay services, development of analytical methods, mineralogical investigations, and also work on application of radiometric methods and tracer techniques in the mining and metallurgical industries. Much of the work done is of direct assistance to industry.

The work of the Industrial Minerals Division consists of tests, research and investigative work on industrial minerals, including water used for industrial purposes. The Division makes field studies of deposits, examines industrial processes utilizing them and conducts research into methods of beneficiating minerals from deposits of marginal and submarginal quality to bring them to the standards demanded by modern industry.

The Fuels Division studies the properties of fossil fuels in Canada to determine the most efficient means of utilizing fuel resources. Most of the work on coal is directed to investigations on the immediate problems of the industry and to engineering studies on the most efficient use of coal in combustion applications with particular reference to thermally generated electric power. Such investigations include work on the evaluation of cleaning performance and the beneficiation of coal fines that are difficult to market, the uses of coal in the metallurgical industries and the study of stress phenomena in mining. Research

in petroleum is directed mainly to problems in the refining of heavy crudes and high-sulphur bitumens, and to the chemical evaluation of oils and bituminous substances for classification and genetic purposes.

The Physical Metallurgy Division aids the metal industries through the development of new alloys, new manufacturing techniques and new applications and in activities aimed toward improving present practices in metal fabrication. It also conducts fundamental research on the properties and behaviour of metals. The Division serves the Department of National Defence by extensive research and investigative work, concerned broadly with the development of defence materials and prototype equipment and with the metallurgical problems of that Department. It is also operative in the nuclear metallurgy field.

Dominion Observatories.—The two main units of the Dominion Observatories are the Dominion Observatory at Ottawa, Ont., and the Dominion Astrophysical Observatory at Victoria, B.C. Permanent magnetic observatories are maintained at Ottawa and Agincourt, Ont., Meanook, Alta., Victoria, B.C., and at Resolute Bay and Baker Lake, N.W.T. Seismic stations for recording earthquakes are operated at Victoria, Horseshoe Bay and Alberni, B.C., Banff, Alta., Saskatoon, Sask., Ottawa, Ont., Seven Falls and Shawinigan Falls, Que., Halifax, N.S., and Resolute, N.W.T.

The Dominion Observatory at Ottawa is responsible for the time service of Canada which involves nightly astronomical observations of star positions and radio broadcast services for distributing accurate time to all parts of Canada. Other astronomical activities centred at Ottawa include upper atmospheric studies by means of meteor observations, studies of the sun and its effect on earthly conditions and mathematical studies of the atmospheres of the sun and stars. The geophysical work, also administered from Ottawa, includes the magnetic survey of Canada with emphasis on aids to air and sea navigation, as well as field and observatory work of interest to the geophysical prospector. The methods of seismology are employed to study important aspects of the earth's crust in Canada and to assist in world-wide investigations of the earth's interior. Gravity observations are carried on throughout Canada with a generally similar purpose, special attention being paid to methods of locating mineral deposits.

The Dominion Astrophysical Observatory at Victoria is devoted to fundamental research into the physical characteristics of the sun, stars, planets and the material of interstellar space. Its 73-inch reflecting telescope is one of the largest in the world and through its use many important contributions have been made to astronomical knowledge.

A radio telescope under construction at Penticton, B.C., will give the Branch a valuable new tool for research in radio astronomy.

The Geographical Branch.—The function of the Branch is to organize and make available all the geographical data on Canada that might be of use in promoting the country's economic, commercial and social welfare. The work is of two kinds—the compilation of geographical material of national significance, and geographical surveys in the field. Land surface conditions, types of vegetation and the structure of towns and cities are typical subjects of investigation.

Mineral Resources Division.—The Division provides a mineral information service that is freely used by government departments, mining and allied industries and others interested in mining or its significance in the Canadian economy. A mineral resources index inventory is maintained of all known occurrences and of mines, both active and potential. The Division makes economic studies of different phases of the mining industry. It administers the Emergency Gold Mining Assistance Act, prepares reports on request to aid in the administration of such matters as tax exemptions on new mining properties, and prepares reports and briefs on general legislation, taxation and tariff matters connected with the mineral industry. The Division is widely known for its publications among the most valuable of which are the annual reviews of production, marketing and other matters concerning 64 minerals. It issues more detailed economic studies of metals and fuels of current interest and prepares annual lists of metallurgical works, metal and

industrial mineral mines, milling plants, coal mines and petroleum refineries. Also published are special monographs on mining laws, taxation and subjects of particular interest to the mineral industry.

The Dominion Coal Board.*—The Board was established by the Dominion Coal Board Act (R.S.C. 1952, c. 86) which was proclaimed on Oct. 21, 1947. By this Act the Board was constituted a department of government to advise on all matters relating to the production, importation, distribution and use of coal in Canada. The Board is also charged with the responsibility of advising upon and administering transportation subventions.

Ancillary to these principal duties the Board is empowered to undertake research and investigations with respect to:—

- (1) the systems and methods of mining coal;
- (2) the problems and techniques of marketing and distributing coal;
- (3) the physical and chemical characteristics of coal produced in Canada with a view to developing new uses therefor;
- (4) the position of coal in relation to other forms of fuel or energy available for use in Canada;
- (5) the cost of production and distribution of coal and the accounting methods adopted or used by persons dealing in coal;
- (6) the co-ordination of the activities of government departments relating to coal; and
- (7) such other matters as the Minister may request or as the Board may deem necessary for carrying out any of the provisions or purposes of the Act.

In addition the Dominion Coal Board Act provides authority in the event of a national fuel emergency to ensure that adequate supplies of fuel are made available to meet Canadian requirements.

Assistance by transportation subventions, which have been maintained in varying degrees during the past 30 years, was designed to further the movement of Canadian coals by equalizing as far as possible the laid down costs of Canadian coals with imported coals. As these costs and the conditions of the coal industry are subject to variation, the Board must review from time to time the rates of subvention and the areas where the assistance is required. The subventions in respect of the various Canadian coals are authorized by Orders in Council and are paid from moneys voted by Parliament for the purpose from year to year. During the year ended Mar. 31, 1958, a total of 3,003,788 tons was shipped under subvention and \$8,320,142 was paid in assistance.

Coal subventions of a new type, based on the B.t.u. content of coal used in thermal electric power production, were authorized in January 1958 by the Atlantic Provinces Power Development Act (S.C. 1958, c. 25). The Dominion Coal Board was designated as the Federal Government's administrative agency for subvention matters in agreements made with the provinces under this Act.

As agent to the Minister of Mines and Technical Surveys, the Board has continued to handle applications for loans under the Maritime Coal Production Assistance Act (R.S.C. 1952, c. 179) and administer the loans granted thereunder. The Board has also continued to administer payment under the Canadian Coal Equality Act (R.S.C. 1952, c. 34) which provides a subsidy on Canadian coal used in the manufacture of coke for metallurgical purposes. In the year ended Mar. 31, 1958, 737,030 tons were bonused at a cost of \$364,829.

The Dominion Coal Board has maintained a continuous review of Canada's energy requirements. In view of the growing impact of oil and natural gas on the markets for Canadian coal, the Board and its staff have intensified the study of the relation of the competing sources of energy and of possible new outlets for the solid fuel, especially in the field of thermal power.

The Board, since its inception, has worked toward the co-ordination of the activities of various government departments and other bodies relating to coal. On the matter of technical research as related to marketing and distributing coal, the Board has main-

* Prepared under the direction of W. E. Uren, O.B.E., Chairman of the Dominion Coal Board.

tained close liaison with the Division of Fuels of the Department of Mines and Technical Surveys. Dominion-provincial conferences on coal research have been held annually since 1949 for the purpose of co-ordination and exchange of ideas.

Government purchases of fuel which constitute an important growing outlet for coal have claimed a greater amount of the Board's time. The Interdepartmental Committee on Fuel, set up in the past to co-ordinate and advise on the purchase and supply of fuel to the Armed Services, has remained active. Furthermore, the Dominion Fuel Committee, which was organized in 1956 along similar lines as an advisory body to other government departments, has already demonstrated the value of the establishment of this group.

In a wider sphere the Chairman of the Board has met annually with the Coal Policy Committee of the Provincial Ministers of Mines and the Board has given consideration to recommendations made by the latter body relating to coal. The Board has also kept contact with trade and other associations concerned with the various phases of the Canadian coal industry in order to foster better mutual understanding of governmental and private endeavour. It has generally constituted a central agency through which representations may be made to the Government.

Pursuant to the recommendations of the Royal Commission on Coal (1946), the Board has continued to work for a reduction of customs duties and sales tax on coal mining machinery. It has also maintained its efforts to create a uniform system of coal mine cost accounting which would provide an accurate presentation of the cost of production.

The Dominion Coal Board consists of seven members including the Chairman who is its Chief Executive Officer and has the status of a deputy minister. The Board is responsible* to, and subject to the direction of, the Minister of Mines and Technical Surveys.

Subsection 2.—Provincial Government Aid*

Newfoundland.—The Newfoundland Government, through its Mines Branch, provides several valuable services to those interested in prospecting and mining. It supplies certain geological maps of specific areas to interested parties. It identifies specimens sent in from Newfoundland and Labrador and assays by chemical means those that appear to have some mineral content. If good specimens from a known area warrant further investigation, a geologist from the Department of Mines and Resources is available to visit the locality and give advice. Prospecting and mining permits are issued by the Department and claims are registered.

Nova Scotia.—Under the provisions of the Mines Act (R.S.N.S. 1954, c. 179), the Government of Nova Scotia may assist a mining company or operator in the sinking of shafts, slopes, deeps and winzes and the driving of adits, tunnels, crosscuts, raises and levels. This assistance may take the form of work performed under contract, the payment of bills for materials and labour or the guarantee of bank loans. Any such work must be approved by the Department of Mines. The Government is also authorized to assist the mining industry to procure power on the most economical basis and may guarantee the Nova Scotia Power Commission against any loss incurred on account of capital investments made for that purpose or revenue. Mining machinery and equipment that may be used in searching for or testing and mining minerals may be made available through the Government. Such equipment is under the direct supervision of the Chief Mining Engineer.

The Government of Nova Scotia is also empowered to make any regulations considered necessary for increasing the output of coal. Such regulations cover the appropriation on payment, of unworked coal lands, operation of coal mines, loans or guarantees for loans. Close co-operation is maintained with the Federal Government in carrying out federal regulations made to secure increased production and economical distribution of coal from the mines of the province.

* Compiled from material supplied by the respective provincial governments.

New Brunswick.—There are five divisions under the Mines Branch of the Department of Lands and Mines. The *Mineral Lands Division* administers the disposition of Crown mineral rights including the issuing of prospecting licences, recording of mining claims, issuing of mining licences and leases and other matters pertaining thereto. Detailed and index claim maps are prepared for distribution. The *Mine Inspection and Engineering Division* administers the safety regulations governing operations under the Mining Act. Regular inspections of all mines are performed. Laboratory facilities are maintained. It is the responsibility of this Division to approve equipment used in mines. The *Geological Division* carries on general and detailed geological mapping and investigation. Maps and reports are prepared for distribution. Mineral and rock specimens are examined for prospectors. Preliminary examinations of mineral prospects are performed where requested and circumstances warrant. The *Mine Assessment Division* is responsible for collection of mining tax and royalties and preparation of statistics concerning mineral production. The *Bathurst Division* serves as recording office for northeastern New Brunswick. In addition, claim maps as well as topographical, geological and aeromagnetic maps are available for inspection and distribution. The staff is prepared to provide information concerning the Mining Act and the use of various types of maps.

Quebec.—The Mining Act (R.S.Q. 1941, c. 196) authorizes the Quebec Department of Mines to build, maintain and improve roads needed for mining development. Such work is done by contract under the supervision of departmental engineers. The Act gives the Department considerable latitude in this respect. Certain major roads have been built to new mining districts and completely paid for; on the other hand if a particular property requires a branch road from an established highway the owner may be required to contribute a portion of the cost. To prevent the development of uncontrolled settlements in the vicinity of operating mines the Department regulates the use of land and permits the establishment of well organized communities. The municipal organization of such communities is administered by the Department of Municipal Affairs.

The Department maintains well equipped laboratories for the benefit of prospectors, geologists, engineers and mine operators. The facilities include equipment for mineralogy, petrography, ore dressing, and analysis by wet or dry assays, spectrography or X-ray. Qualitative and mineralogical determinations are made free of charge but quantitative analyses are charged for, according to a tariff schedule. The Mining Act provides free coupons to be used by prospectors in paying for such analyses.

The province has authorized the establishment of research laboratories to assist mining and metallurgical enterprises in the processes and techniques of extracting, transforming and utilizing ores.

The Department undertakes geological mapping and inspection. The work is divided between two branches, one responsible for reconnaissance (areal) mapping, the other doing detailed mapping in mining districts and inspection of individual deposits or properties. Field parties are headed by geologists or mining engineers. The published reports on these investigations are distributed free upon request. During the field season about 35 parties are maintained in different sections of the province. Offices, in charge of resident geologists, are maintained in mining districts, to collect, preserve and compile geological information disclosed by mining explorations and individual sheets of the compilation are made available to the public.

The Department employs inspectors whose duties are almost exclusively concerned with the safety of workmen in operating mines. Three Mobile Mine Rescue Stations are operated and a mine rescue training program is conducted throughout the province.

In the field of education for prospectors, five-week courses are organized each year at Laval and Montreal Universities. University scholarships are granted each year to deserving undergraduate and postgraduate students in mining, geology and metallurgy, thus contributing to the training of qualified engineers for the benefit of the mining industry. Lectures are given to prospectors at different localities throughout the province.

Ontario.—The Ontario Department of Mines renders a multiplicity of services of direct assistance to the mining industry within the province, as briefly enumerated below.

Mining Lands Branch.—This Branch handles all matters dealing with the recording of mining claims, assessment work, etc., and the final issuance of title to mining lands. As a service to the mining public, individual township maps are prepared and kept up to date showing lands open for staking and recorded and patented claims therein. As new surveys are made or later data become available maps are revised in keeping with such information. District Mining Recorders maintain offices at strategic locations throughout the province.

Geological Branch.—A continuing program of geological mapping and investigation is carried out by the geological staff of the Department. Detailed reports and geological maps of the areas studied are made available to the public. In many of the active areas of the province resident geologists are engaged to gather and make available to the public information concerning geological conditions, exploration and development within their respective districts. One geologist specializing in industrial minerals is maintained on the staff to examine deposits of this type, to investigate methods of treatment and recovery of such minerals and to compile data on the uses, specifications and markets for such products. Collection and dissemination of information on groundwater resources is also a function of the Geological Branch. During the winter months courses of instruction for prospectors are held in various centres throughout the province.

Laboratories Branch.—The Provincial Assay Office located in the East Block of the Parliament Buildings, Toronto, carries out wet analyses and assays of metal and rock constituents on a custom fee basis and also renders the same service free of charge to holders of valid assay coupons issued for the performance of assessment work on mining claims. The Timiskaming Testing Laboratories situated at Cobalt, in addition to performing fire assays and chemical analyses, conducts a bulk sampling plant mainly to assist the producers of the area in the marketing of the cobalt-silver ores. A Cable Testing Laboratory, wherein all hoisting ropes in use at the mines are periodically tested, is operated under the supervision of the Inspection Branch.

Inspection Branch.—The main function of this Branch is the regular examination of all operating mines, quarries, sand and gravel pits and certain metallurgical works with a view to ensuring proper conditions of health and safety to the men employed. District offices to serve the local areas are maintained in the major mining centres of the province. Mine rescue stations in the principal mining sections are operated under the supervision of the Inspection Branch.

Exhibitions.—The Department each year presents displays pertaining to mining within the province at such exhibitions as the Canadian National at Toronto and at other centres from time to time.

Publications Branch.—All maps and reports of the Department are distributed through the agency of the Publications Branch located at the main office of the Department.

Library.—A mining library for the use of the Department and the public is maintained within the Department. This library is comprised mainly of publications and maps of the Federal and Provincial Governments of Canada as well as of numerous periodicals and bulletins from the United States.

Mining and Access Roads.—In 1951 the Department of Mines undertook a program of road construction in the mineralized areas of the province, to open them for prospecting and development and to facilitate the actual operation of mining enterprises. When the importance of this program in its relation to the whole development of northern Ontario became apparent, the Government decided that its scope should be widened and, with that end in view, an interdepartmental committee was set up early in 1955 to decide

on matters of policy and to determine the locations and priorities of the proposed roads. The Minister of Mines sits on this committee with the Ministers of Lands and Forests, of Public Works, and of Highways.

The Department of Highways supervises the construction of all access roads. Certain roads may be subsidized while others may be financed solely by Department of Mines funds. The sum of \$1,000,000 a year has been made available for these projects. Fifty-five roads, totalling about 500 miles, have been completed since 1951.

Manitoba.—The Mines Branch of the Manitoba Department of Mines and Natural Resources offers five main services of assistance to the mining industry: maintenance, by the Mining Recorder's office at Winnipeg and The Pas, of all records essential to the granting and retention of titles to every mineral location in Manitoba; compilation, by the geological staff of the Branch, of historical and current information pertinent to mineral occurrences of interest and expansion of this information by a continuing program of geological mapping; enforcement of mine safety regulations and, by collaboration with industry, introduction of new practices such as those concerned with mine ventilation and the training of mine rescue crews which contribute to the health and welfare of mine workers; and maintenance of a chemical and assay laboratory to assist the prospector and the professional man in the classification of rocks and minerals and the evaluation of mineral occurrences.

Manitoba also aids the mining industry by the construction of access roads to mining districts.

Saskatchewan.—Assistance to the mining industry in Saskatchewan is administered by the Mines Branch, Department of Mineral Resources, with its head office at Regina. This Branch is headed by a Director and comprises three divisions.

The Geology Division is directed by the Chief Geologist, and maintains resident geologists in or near the principal mining areas. The Division conducts prospectors' schools giving basic training in geology, mineralogy, prospecting and exploration techniques and administers the Prospectors' Assistance Plan which assists by lending equipment, paying certain transportation costs and by providing technical advice. During the summer months, geological parties, under the direction of the Chief Geologist, survey and map attractive areas and prepare reports which are made available to the public. In 1957 and 1958 magnetometer and electro-magnetic surveys were conducted on approximately 3,000 sq. miles of the Precambrian area.

The Engineering Division is primarily responsible for the safety of people working in mines and makes periodic inspections of mines and quarries. A permanent Mining Inspector is stationed at Uranium City and, in addition to regular inspections, he conducts programs of first aid instruction and mine-rescue training.

The Mining Lands Division is responsible for making disposition of all Crown minerals with the exception of petroleum and natural gas, and maintains records respecting areas let out by lease, permit or claim. Recording offices, having the responsibility of assisting the public in determining the lands available and accepting applications, are located at Regina, Prince Albert, La Ronge, Uranium City and Flin Flon.

Alberta.—Alberta Government assistance to the mining industry is diversified in character. The Mines Division of the Department of Mines and Minerals regulates coal mines and quarries and maintains standards of safety by inspection and certification of workers. The Workmen's Compensation Board also maintains safety standards and trains mine rescue crews. The oil and gas industries are served in a similar way by the Oil and Gas Conservation Board. Its regulatory measures, however, are also concerned with preventing the waste of oil and gas resources and with giving each owner of oil and gas rights the opportunity of obtaining a fair share of production. This Board compiles periodic reports and annual records which are of invaluable assistance in oil development in Alberta. The mining industry is also served by the Research Council of Alberta which has made geological surveys of most of the province and has carried forward projects

concerned with the uses and development of minerals. The Council has studied the occurrence, uses and analysis of Alberta coals and their particular chemical and physical properties, the use of coals in the generation of power, the upgrading and the cleaning of coal and has also studied briquetting, blending, abrasion loss, shatter and crushing strength, asphalt binders and dust-proofing of coal. Studies have been made of glass sands, salt, fertilizers, cement manufacture and brick and tile manufacture.

The province from time to time has had Commissions examine various aspects of the mining industry when it has considered that their findings would be of assistance in developing such industries. The province, together with the Canadian Association of Oil Well Drilling Contractors and the Western Canada Petroleum Association, maintains a detailed supervisory and safety training program concerned with the drilling of oil and gas wells. Of assistance also to mining companies and oil companies are the special deductions provided for in the Alberta Corporation Income Tax Act. These follow the parallel provisions in the federal Income Tax Act.

British Columbia.—The Department of Mines of British Columbia provides the following services: detailed geological mapping as a supplement to the work of the Geological Survey of Canada; free assaying and analytical work for prospectors registered with the Department; assistance to the prospector in the field by departmental engineers and geologists; grubstakes, limited to a maximum of \$500, for prospectors; assistance in the construction of mining roads and trails; and inspection of mines to ensure safe operating conditions.

Section 3.—Mining Legislation

Federal Mining Laws and Regulations.—The Federal Government administers the mineral properties of the Yukon and Northwest Territories as well as those within Indian reserves and in National Parks.

Mining Acts and Regulations covering the Yukon and Northwest Territories are administered by the Mining and Lands Division, Northern Administration and Lands Branch, Department of Northern Affairs and National Resources. Mineral rights underlying grants issued for federal lands are reserved to the Crown in the Yukon and Northwest Territories.

Mining rights in the Yukon and Northwest Territories may be acquired by staking claims under the appropriate Act or Regulations. Twenty-one-year leases of claims may be acquired. These leases are renewable.

The disposal of minerals occurring in an Indian reserve is subject to the consent of the Indians occupying the reserve and to treaties relating thereto.

The Acts and Regulations governing mining and quarrying on federal lands are summarized in Report No. 854, entitled *Digest of the Mining Laws of Canada*, issued by the Mines Branch, Department of Mines and Technical Surveys, Ottawa. This publication also lists all the laws and regulations pertaining to mining on federal lands. Copies of these individual Acts and Regulations may be obtained by applying to the Northern Administration and Lands Branch mentioned above. Another publication of interest in connection with mining regulations and available from the Mineral Resources Division of the Department of Mines and Technical Surveys is entitled *Summary Review of Federal Taxation and Certain Other Federal Legislation Affecting Mining, Oil and Natural Gas Enterprises in Canada*.

Provincial Mining Laws and Regulations.*—All Crown mineral lands lying within the boundaries of the several provinces (with the exception of those within Indian reserves and National Parks which are under the jurisdiction of the Federal Government) are administered by the respective provincial governments.

* Compiled from material supplied by the provincial governments.

The granting of land in any province except Ontario and Nova Scotia no longer carries with it mining rights upon or under such land. In Ontario mineral rights are expressly reserved if they are not to be included. In Nova Scotia all minerals belong to the Crown except limestone, gypsum and building materials and, in granting land from the Crown, the right to these minerals goes with the title. In Newfoundland mineral and quarry rights are expressly reserved. Some early grants in British Columbia, Alberta, Saskatchewan, Manitoba, New Brunswick, Quebec and Newfoundland also included certain mineral rights. Otherwise mining rights must be separately obtained by lease or grant from the provincial authority administering the mining laws and regulations. Mining activities may be classified as placer, general minerals (or veined minerals and bedded minerals), fuels (coal, petroleum, gas) and quarrying. Provincial mining regulations under these divisions are summarized in the following paragraphs.

Placer.—In most provinces in which placer deposits occur there are regulations defining the size of placer holdings, the terms under which they may be acquired and held, and the royalties to be paid.

General Minerals.—These minerals are sometimes described as quartz, lode, or minerals in place. With the exception of British Columbia the most elaborate laws and regulations apply in this division. In all provinces except Alberta a prospector's or miner's licence, valid for one year, must be obtained to search for mineral deposits, the licence being general in some areas but limited in others. A claim of promising ground of a specified size may then be staked. This claim must be recorded within a time limit and payment of recording fees made except in Quebec where no fees are required. Work to a specified value per annum must be performed upon the claim for a period of up to ten years. There is no time limit in British Columbia but \$500 assessment work, of which a survey may represent one-fifth, must be performed and recorded before a lease may be obtained. In Quebec a specified number of man-days of work must be performed and the excess may be carried forward for renewals of licence; before mining can be commenced a mining concession must be purchased for which it is necessary to produce an engineer's report indicating the presence of an orebody. The taxation applied most frequently is a percentage of net profits of producing mines or royalties. In the Province of Newfoundland the provincial mining tax has been modified since Confederation on Mar. 31, 1949, to conform with the provincial obligations under the Dominion-Provincial Tax Agreement. No other form of taxation or royalty now exists.

Fuels.—In provinces where coal occurs the size of holdings is laid down, together with the conditions of work and rental under which they may be held. In Quebec, ordinary mining claims give rights to all mineral substances and to their development, and stakings for combustible natural gas, salt, coal, mineral oil or naphtha, or iron sands may cover 1,280 acres per claim. Royalties are sometimes provided for. Acts or regulations govern methods of production. In the search for petroleum and natural gas an exploration permit or reservation is usually required. However, in Alberta, Saskatchewan and British Columbia leases usually follow the exploration reservation whether or not any discovery of oil or gas is made because exploration costs are applicable in part on the first year's rental. In other provinces, except Manitoba, the discovery of oil or gas is usually prerequisite to obtaining a lease or grant of a limited area, subject to carrying out drilling obligations and paying a rental, a fee, or a royalty on production.

Quarrying.—Regulations under this heading define the size of holdings and the terms of lease or grant. On Quebec private lands the quarry belongs to the owner; on Crown lands mineral rights belong to the Crown and may be obtained in accordance with the provisions of the law although the rights to exploit peat or marl must be obtained by special licence.

Copies of mining legislation including regulations and other details may be obtained from the provincial authorities concerned.

Section 4.—Statistics of Mineral Production

The importance of mineral production compared with other primary industries in Canada is indicated in Chapter XVI and its part in the foreign trade of Canada is dealt with in Chapter XXI.

Subsection 1.—Value and Volume of Mineral Production

Statistics of the annual value of mineral production are available from 1886, total production being shown for five-year intervals from that date to 1940 and annually for subsequent years in Table 1. These figures are not strictly comparable throughout the period because of minor changes in methods of computing metallic content of ores sold and valuations of products but they do serve to show broad trends in the mineral industry.

The increase in the value of mineral production since the end of World War II has been phenomenal, having more than tripled since 1947. Production per head of the population advanced from \$51.38 in that year to \$132.03 in 1957. Although part of this increase was accounted for by advanced prices, the index of the volume of output from Canadian mines recorded an advance from 106.2 (1935-39=100) to 290.1 in the same comparison.

1.—Value of Mineral Production, 1886-1958

Year	Total Value	Value per Capita	Year	Total Value	Value per Capita	Year	Total Value	Value per Capita
	\$	\$		\$	\$		\$	\$
1886.....	10,221,255	2.23	1935 ¹	312,344,457	28.80	1949 ²	901,110,026	67.01
1890.....	16,763,353	3.51	1940.....	529,825,035	46.55	1950.....	1,045,450,073	76.24
1895.....	20,505,917	4.08	1941.....	560,241,290	48.69	1951.....	1,245,483,595	88.33
1900.....	64,420,877	12.15	1942.....	566,768,672	48.63	1952.....	1,285,342,353	89.07
1905.....	69,078,999	11.51	1943.....	530,053,966	44.94	1953.....	1,336,303,503	90.40
1910.....	106,823,623	15.29	1944.....	485,819,114	40.67	1954.....	1,488,382,091	96.59
1915.....	137,109,171	17.18	1945.....	498,755,181	41.32	1955.....	1,795,310,796	114.37
1920.....	227,859,665	26.63	1946.....	502,816,251	40.91	1956 ²	2,084,905,554	129.35
1925.....	226,583,333	24.38	1947.....	644,869,975	51.38	1957.....	2,190,322,392	132.03
1930.....	279,873,578	27.42	1948.....	820,248,865	63.97	1958 ²	2,122,153,440	124.48

¹ Beginning with 1935, exchange equalization on gold production is included.

² Value of Newfoundland production included from 1949.

Current Production.—Mineral production in Canada reached its peak in 1957 when a total value of \$2,190,322,392 was recorded. On the basis of preliminary figures, 1958 production declined by about 3 p.c. The most striking gain in production was recorded in uranium which trebled its 1956 value to over \$136,000,000 in 1957 and then more than doubled that figure in 1958. The value of uranium produced is now second only to crude petroleum in the Canadian mining economy.

Downward trends, first apparent in values of copper, lead and zinc in 1957, became general for metals in 1958. Copper declined by \$28,000,000, lead by \$8,500,000, nickel by \$62,000,000, and zinc by nearly \$7,000,000. The value of crude petroleum marketed declined by over \$52,000,000 reflecting production cutbacks and market restrictions. Asbestos shipments were down by 100,000 tons, representing a 7-p.c. decline in value from the 1957 peak of \$104,000,000. Combined values of gold and silver increased by \$7,000,000 in 1958, reversing the 1957 trend when a high premium on the value of the Canadian dollar was reflected in a substantially lower value for relatively stable production. Increased activity in mining of these metals in 1958 brought production to nearly 36,000,000 oz. t.

Metallic minerals, other than uranium, showed substantial declines in value in almost every area as a result of marked price declines and narrowing markets. These factors are sharply illustrated by production and value figures now available for lead and zinc. Despite increased production of over 4,000 tons in 1958, values for lead declined by over

\$8,500,000, and though there was an increase of nearly 15,000 tons in zinc production the total output was valued at \$7,000,000 less than the 1957 output. Shipments of iron ore dropped by over 28 p.c. Nickel production declined by 26 p.c. to a value of \$197,000,000 from the 1957 value of over \$259,000,000, partly because of planned reduction in output and partly because of a prolonged labour dispute.

The value of non-metallic minerals, which had climbed to \$169,000,000 in 1957, dropped back by \$11,000,000 in 1958. Most of this 6.4-p.c. decline was attributable to reduction in asbestos output and to a \$3,600,000 drop in the value of titanium dioxide recoveries. Salt production rose steadily to a total value of over \$15,000,000 in 1958 and increased prices for gypsum brought the 1958 value to over \$8,000,000, although production decreased slightly in both 1957 and 1958.

In the mineral fuels group, natural gas production increased in value by 24 p.c. in 1957 and again by 36 p.c. in 1958. Preliminary figures for 1958 give a total production of 337,996,000,000 cu. ft. The production of crude petroleum maintained its accustomed place as the greatest single dollar producer in the minerals field. The highest production of crude petroleum in Canada's history was reached in 1957 when 181,848,000 bbl. were produced with a total value in excess of \$453,000,000. Production in 1958 fell by 8.4 p.c. to a total of 166,476,268 bbl., valued at just over \$401,000,000, mainly as a result of restricted markets and reduced demand. Coal has declined fairly steadily in volume and value in Canada since 1951. The volume rate of decline was 12 p.c. in 1957 and 13 p.c. in 1958.

In the structural materials group, production of cement levelled off at just over 6,000,000 tons in both 1957 and 1958. Better prices, however, raised the value of cement production by nearly \$20,000,000 since 1956. Sand and gravel production reached a peak of 168,000,000 tons in 1958. Clay products attained a new production peak valued at nearly \$43,000,000 in 1958, an increase of 18 p.c. Production of stone rose by 21 p.c. in 1957 and levelled off at 40,000,000 tons valued at \$57,000,000 in 1958. The rate of increase in all structural materials slowed from 14 p.c. in 1957 to 5 p.c. in 1958.

2.—Quantity and Value of Minerals Produced, 1956-58

Mineral	1956		1957		1958 ^a	
	Quantity	Value	Quantity	Value	Quantity	Value
		\$		\$		\$
Metallics		1,146,349,595		1,159,579,226		1,142,140,007
Antimony..... lb.	2, 140, 432	687, 527	1, 360, 731	370, 442	925, 000	292, 153
Bismuth..... "	285, 861	544, 900	319, 941	584, 917	457, 088	861, 185
Cadmium..... "	2, 339, 421	3, 977, 016	2, 368, 130	4, 025, 821	1, 841, 425	2, 798, 965
Calcium..... "	394, 900	515, 305	221, 225	282, 378	70, 259	85, 807
Cobalt..... "	3, 516, 670	9, 065, 493	3, 922, 649	7, 784, 423	2, 521, 240	5, 196, 088
Copper..... "	709, 720, 590	292, 958, 091	718, 218, 535	206, 897, 988	698, 929, 034	178, 077, 588
Gold..... oz. t.	4, 383, 863	151, 024, 080	4, 433, 894	148, 757, 143	4, 534, 455	154, 065, 491
Copper..... "	363, 192	795, 390	384, 360	693, 770	69, 000	155, 250
Indium..... "	22, 348, 278	160, 362, 118	22, 272, 174	167, 221, 425	15, 878, 481	121, 437, 285
Iron ore..... ton	159, 874	7, 996, 897	187, 529	10, 083, 434	118, 000	6, 342, 500
Iron, remelt..... "	377, 708, 904	58, 582, 651	362, 968, 529	50, 670, 407	371, 540, 693	42, 095, 560
Lead..... lb.	19, 212, 298	6, 079, 890	16, 770, 371	5, 254, 896	11, 620, 205	3, 591, 064
Magnesium..... "		1, 900				
Manganese ore..... "	841, 647	955, 828	783, 739	1, 166, 557	566, 600	781, 231
Molybdenum..... lb.	357, 030, 311	222, 204, 860	375, 916, 551	258, 977, 309	278, 082, 795	196, 733, 985
Nickel..... "						
Palladium, rhodium, etc..... oz. t.	163, 451	6, 681, 098	216, 582	7, 896, 209	150, 720	4, 491, 809
Platinum..... "	151, 357	15, 725, 992	199, 565	17, 835, 124	144, 565	9, 277, 140
Selenium..... lb.	330, 389	4, 460, 252	321, 392	3, 535, 312	403, 264	2, 624, 480
Silver..... oz. t.	28, 431, 847	25, 497, 681	28, 823, 298	25, 182, 915	31, 311, 378	27, 200, 192
Tellurium..... lb.	7, 867	13, 767	31, 524	55, 197	43, 278	74, 554
Tin..... "	756, 934	670, 441	709, 102	580, 342	718, 000	692, 870
Titanium ore..... ton	2, 310	16, 561	10, 770	97, 075	5, 415	36, 100
Tungsten..... lb.	2, 271, 437	6, 362, 368	1, 921, 483	5, 279, 275	690, 977	1, 900, 187
Uranium..... "	4, 581, 060	45, 732, 145	13, 271, 414	136, 304, 364	28, 237, 332	290, 228, 356
Zinc..... "	845, 285, 125	125, 437, 344	827, 481, 656	100, 042, 533	867, 275, 945	93, 100, 167

2.—Quantity and Value of Minerals Produced, 1956-58—concluded

Mineral	1956		1957		1958 ^p	
	Quantity	Value \$	Quantity	Value \$	Quantity	Value \$
Non-metallics		169,341,599		169,061,110		158,131,982
Arsenious oxide..... lb.	1,790,381	77,612	3,697,317	137,112	2,249,866	58,496
Asbestos..... ton	1,014,249	99,859,969	1,046,088	104,489,431	942,135	96,168,029
Barite..... "	320,835	3,031,034	228,048	2,992,913	201,329	2,067,916
Diatomite..... "	2	40	120	2,400	6	270
Feldspar..... "	18,153	364,849	20,450	393,284	17,750	328,105
Fluorspar..... "	140,071	3,407,582	66,245	1,756,841	..	1,552,255
Gypsum..... "	4,895,811	7,260,236	4,577,492	7,745,105	4,043,364	8,362,037
Iron oxide..... "	8,803	186,225	7,518	187,211	2,060	162,160
Lithia..... lb.	4,789,360	2,643,950	5,140,257	2,827,143	3,938,000	2,030,000
Magnesian dolomite and brucite..... "	..	2,783,181	..	3,046,298	..	2,547,428
Mica..... lb.	1,843,811	95,666	1,282,416	111,583	1,072,703	92,736
Mineral water..... gal.	292,526	149,867	348,710	185,167	347,500	185,000
Nepheline syenite..... ton	180,006	2,574,140	200,016	2,754,060	200,149	2,636,142
Peat moss..... "	128,054	4,240,714	137,747	4,734,504	146,064	5,534,549
Pyrite, pyrrhotite..... "	1,046,740	4,538,785	1,166,416	4,808,228	1,181,281	4,496,372
Quartz..... "	2,142,234	3,036,843	2,139,246	3,185,186	1,403,737	2,509,034
Salt..... "	1,590,804	12,144,476	1,771,559	13,989,703	1,863,866	15,482,550
Silica brick..... M	5,799	736,817	4,308	655,903	2,598	402,189
Soapstone and talc ¹ ton	29,326	365,226	34,725	427,673	33,494	427,459
Sodium carbonate..... "	..	..	..	..	53	800
Sodium sulphate..... "	181,063	2,838,186	157,800	2,568,728	167,897	2,764,651
Sulphur in smelter gas..... "	236,088	2,323,590	235,123	2,322,067	236,478	2,326,080
Sulphur, elemental..... "	..	..	..	..	99,645	1,988,586
Titanium dioxide..... "	157,374	7,682,911	186,422	9,740,570	..	6,068,838
Fuels		518,761,191		564,776,791		507,732,436
Coal..... ton	14,915,610	95,349,763	13,189,155	90,220,670	11,441,695	78,217,621
Natural gas..... M cu. ft.	169,152,586	16,849,556	220,006,682	20,962,501	337,996,000	28,487,600
Petroleum, crude..... bbl.	171,981,413	406,561,872	181,848,004	453,593,620	166,476,268	401,027,215
Structural Materials		259,453,169		296,995,265		314,149,015
Clay products (brick, tile, etc.)..... "	..	37,784,980	..	35,922,158	..	42,611,899
Cement..... ton	5,021,683	75,233,321	6,049,098	93,167,477	6,068,977	95,869,547
Lime..... "	1,295,699	15,667,598	1,378,617	16,678,614	1,612,761	20,439,311
Sand and gravel..... "	148,801,268	81,957,352	159,829,512	91,939,354	167,943,857	97,528,752
Stone..... "	33,257,318	48,809,918	40,282,081	59,197,662	40,516,905	57,699,506
Grand Totals	..	2,084,905,554	..	2,190,322,392	..	2,122,153,440

¹ Includes pyrophyllite.

Analysis of Current Value and Volume.—To assist in clearer and simpler interpretation of the trends in mineral production in Canada over the ten years 1949-58, the percentage of the total value contributed by each principal mineral in each year is given in Table 3. Values upon which percentages in this table are based are the annual values of mineral production, expressed in Canadian currency, as shown in Tables 1 and 2.

3.—Percentage of the Total Value Contributed by Principal Minerals, 1949-58

Mineral	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958 ^p
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
Metallics¹	59.8	59.0	59.9	56.7	53.1	53.7	56.1	54.9	52.9	53.8
Copper.....	11.6	11.8	11.9	11.4	11.3	11.8	13.4	14.1	9.4	8.4
Gold.....	16.5	16.2	13.0	11.9	10.4	10.0	8.7	7.3	6.8	7.3
Iron ore.....	3.9	3.8	4.2	4.6	6.2	6.2	6.2	7.6	7.6	5.7
Lead.....	5.6	4.6	4.7	4.3	3.7	3.9	3.2	2.8	2.3	2.0
Nickel.....	11.0	10.7	12.1	11.8	12.0	12.1	12.0	10.8	11.8	9.3
Platinum metals.....	2.2	1.7	1.8	1.4	1.5	1.4	1.3	1.1	1.2	0.6
Silver.....	1.5	1.8	1.8	1.6	1.8	1.7	1.4	1.2	1.1	1.3
Uranium.....	..	..	..	..	..	1.8	1.4	2.2	6.2	13.7
Zinc.....	8.5	9.4	10.9	10.1	7.2	6.1	6.6	6.1	4.6	4.4

¹ Includes minor items not specified.

3.—Percentage of the Total Value Contributed by Principal Minerals, 1949-58—concluded

Mineral	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958 ^a
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
Non-metallics¹	7.1	9.0	9.3	9.7	9.4	8.8	8.1	8.3	7.7	7.5
Asbestos.....	4.4	6.3	6.5	6.9	6.4	5.8	5.4	5.3	4.8	4.5
Gypsum.....	0.6	0.6	0.5	0.5	0.6	0.5	0.4	0.4	0.4	0.4
Quartz.....	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1
Salt.....	0.6	0.7	0.6	0.6	0.5	0.6	0.6	0.7	0.6	0.7
Sulphur.....	0.2	0.2	0.2	0.3	0.2	0.3	0.3	0.4	0.1	0.1
Fuels	20.4	19.2	18.7	20.4	23.5	23.7	23.1	24.9	25.8	23.9
Coal.....	12.3	10.5	8.7	8.6	7.7	6.5	5.2	4.6	4.1	3.7
Natural gas.....	1.3	0.6	0.6	0.7	0.8	0.8	0.9	0.9	1.0	1.3
Petroleum.....	6.8	8.1	9.4	11.1	15.0	16.4	17.0	19.4	20.7	18.9
Structural Materials	12.7	12.7	12.1	13.1	14.0	13.8	12.7	11.9	13.6	14.8
Clay products.....	2.0	2.1	1.9	1.9	2.2	2.2	2.0	1.8	1.6	2.0
Cement.....	3.6	3.4	3.2	3.7	4.4	4.0	3.6	3.8	4.3	4.5
Lime.....	1.3	1.2	1.1	1.1	1.1	1.0	0.9	0.7	0.8	1.0
Sand and gravel.....	3.5	3.5	3.6	4.0	4.0	4.0	3.8	3.5	4.2	4.6
Stone.....	2.3	2.5	2.3	2.4	2.3	2.6	2.4	2.1	2.7	2.7
Grand Totals	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

¹ Includes minor items not specified.

The total volume of mineral output attained a wartime peak in 1941 when the production index* stood at 132. Principally because of the steady recession in the mining of gold and other major metals during the next five years, the index gradually declined and reached a ten-year low point of 97 in 1946. Since then, sharp gains in the production of petroleum and other non-metallics together with substantial increases in metals output resulted in a sustained advance to a record high level of 290.1 in 1957.

* The construction of this index, which is a component of the revised index of industrial production, is described in DBS Reference Paper, *Revised Index of Industrial Production, 1935-51*.

4.—Indexes of the Volume of Production of the Principal Mining Industries, 1948-57

(1935-39=100)

NOTE.—Comparable figures from 1935 are given in the 1954 Year Book, p. 523.

Mineral	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957
Metallics	99.4	107.7	111.0	113.5	116.5	114.1	124.8	138.0	142.3	160.0
Copper.....	94.5	99.0	93.4	95.1	91.2	89.6	106.9	115.3	125.8	125.0
Gold.....	81.3	98.3	105.8	104.0	106.5	97.0	103.9	108.2	104.7	105.3
Lead.....	86.1	67.7	64.6	61.6	65.1	76.3	85.6	78.6	73.5	71.0
Nickel.....	135.9	132.8	127.7	141.2	144.2	147.4	163.4	180.6	184.4	194.6
Silver.....	77.9	81.2	104.8	102.7	113.3	126.7	138.8	124.3	125.1	127.5
Zinc.....	130.1	141.5	145.9	153.0	170.6	186.4	173.8	199.5	195.4	195.7
Non-metallics	204.3	175.4	247.2	271.9	267.3	258.1	264.3	304.4	316.3	308.7
Asbestos.....	176.9	141.8	218.5	245.3	245.2	232.3	235.9	268.0	271.4	265.4
Gypsum.....	349.3	346.4	403.6	371.4	370.3	393.8	405.5	476.4	506.0	471.8
Salt.....	177.7	181.2	207.2	233.1	234.6	231.2	232.2	310.0	385.9	427.8
Fuels	142.7	173.7	198.0	258.8	301.5	351.5	397.0	506.2	646.1	676.2
Coal.....	120.6	124.4	122.9	119.4	112.9	101.8	94.2	93.3	93.3	82.4
Natural gas.....	112.7	110.6	116.9	150.8	188.3	157.5	180.4	220.4	249.0	314.7
Petroleum.....	297.0	515.0	703.4	1,161.0	1,490.6	1,966.5	2,337.5	3,143.7	4,189.1	4,422.0
Total Mining	122.2	131.7	145.4	161.8	174.7	185.8	209.7	242.0	272.5	290.1

Subsection 2.—Provincial Distribution of Mineral Production

The decline in mineral production was general across the country except in Ontario, Saskatchewan and the Northwest Territories, where uranium is produced.

Ontario again led the provinces in mineral output, producing 34 p.c. of the total in 1957 and increasing its contribution to 37 p.c. in 1958. The value rate of increase within the province was 15 p.c. in 1957, but only 6 p.c. in 1958. The greatest gain was, of course, in uranium, which offset major declines in nickel, copper and iron ore. Alberta took over second place in production in 1957 with 18.7 p.c. of the total, edging out Quebec with a contribution of 18.5 p.c. In 1958, however, Quebec regained second place with 17.5 p.c. of the total. Alberta's contribution of 16.0 p.c. in 1958 reflected the decline in petroleum output which forms the major share of mineral contributions in that province. British Columbia ranked fourth in mineral output in 1957 with a contribution of 8.2 p.c., but gave way to Saskatchewan in 1958 with a 10.1-p.c. contribution. The decline in British Columbia during 1958 was 12 p.c., whereas Saskatchewan showed an increase of 23 p.c. Manitoba's production declined 6 p.c. in 1957 but, because of lower marketings of nickel, cobalt, zinc and petroleum, the rate of decrease doubled in the following year.

An encouraging increase of 26 p.c. in production in New Brunswick in 1957 was offset in 1958 by an equally sharp decline owing to greatly curtailed production of copper and lead and a major decline in output of sand and gravel. Nova Scotia registered a 3-p.c. increase in 1957, but decreased shipments of coal and barite caused a drop of nearly 6 p.c. in 1958. Each of these provinces contributed just over 3 p.c. of the total national production in both years. Newfoundland increased its production of copper, lead and zinc, but the reduced demand for iron ore accounted for most of the 16-p.c. decrease in value of production in the province in 1958.

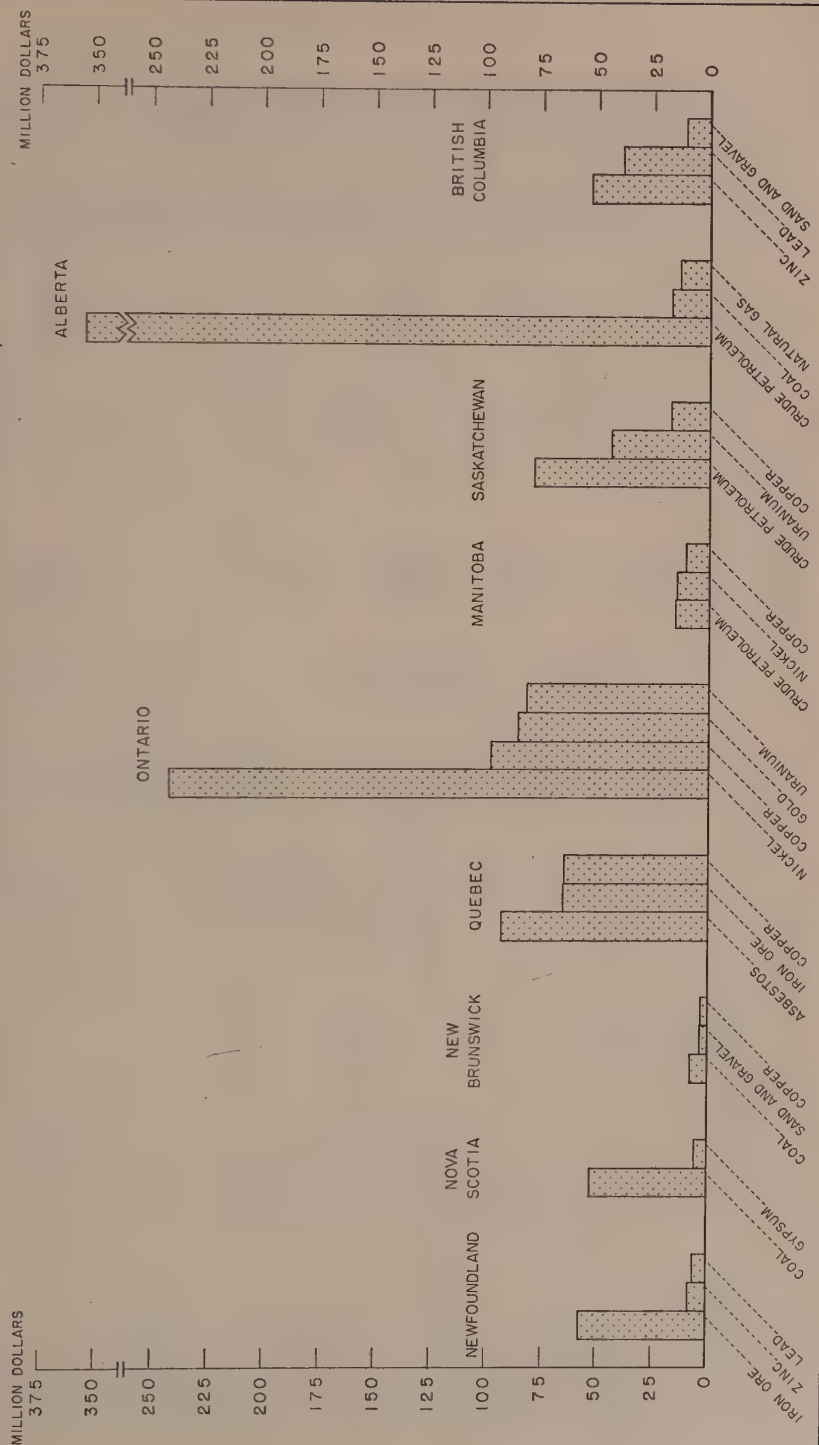
The Northwest Territories increased its contribution to almost 1.2 p.c. of the total national output by recording an advance of 15 p.c. as compared with a decline of 3 p.c. in 1957.

5.—Value of Mineral Production, by Province, 1949-58

NOTE. Figures from 1899 are given in the corresponding table of previous Year Books beginning with the 1933 edition.

Year	Newfoundland	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba
	\$	\$	\$	\$	\$	\$
1949.....	27,583,615	56,092,830	7,134,009	165,021,513	323,368,644	23,839,638
1950.....	25,824,047	59,482,173	12,756,975	220,176,517	366,801,525	32,691,173
1951.....	32,410,443	59,727,256	9,564,617	255,530,071	444,667,203	30,045,992
1952.....	32,512,313	64,552,383	11,298,960	270,483,962	444,669,412	25,105,045
1953.....	33,780,622	67,364,408	11,663,618	251,881,781	465,877,093	25,264,112
1954.....	42,898,033	73,450,898	12,468,322	278,818,070	496,747,571	35,106,922
1955.....	68,462,956	67,133,539	15,759,744	357,010,045	583,954,682	62,018,231
1956.....	84,349,006	66,092,274	18,258,302	422,464,410	650,823,362	67,909,407
1957.....	82,682,263	68,068,743	23,120,689	406,055,757	748,824,322	63,464,285
1958 ^a	68,752,085	64,002,597	17,053,898	370,804,294	799,168,474	56,153,964
	Saskatchewan	Alberta	British Columbia	Northwest Territories	Yukon Territory	Canada
	\$	\$	\$	\$	\$	\$
1949.....	36,054,536	113,728,425	136,385,911	6,801,729	5,099,176	901,110,026
1950.....	35,983,923	135,758,940	138,888,205	8,050,899	9,035,696	1,045,450,073
1951.....	51,032,953	168,144,211	176,278,932	8,288,747	9,793,170	1,245,483,595
1952.....	49,506,094	196,811,654	170,071,244	8,944,835	11,386,451	1,285,342,353
1953.....	48,081,970	248,863,295	158,487,812	10,300,230	14,738,562	1,336,303,503
1954.....	68,216,009	279,042,735	158,630,867	26,414,000	16,588,664	1,488,382,091
1955.....	85,150,128	325,974,326	189,524,574	25,597,821	14,724,750	1,795,310,796
1956.....	122,744,698	411,171,898	203,277,828	22,157,935	15,656,434	2,084,905,554
1957.....	173,461,037	410,211,763	178,931,120	21,400,615	14,111,798	2,190,322,392
1958 ^a	213,720,594	338,790,192	157,143,008	24,791,516	11,772,818	2,122,153,440

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6.—Detailed Mineral Production, by Province, 1957 with Preliminary Totals for 1958

Mineral	Newfoundland	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Yukon and Northwest Territories	CANADA	
											1957	1958p
Metallics \$	77,372,187	1,511	4,789,658	200,571,643	600,980,821	33,715,880	77,462,677	13,391	129,551,077	35,119,781	1,159,579,228	1,142,140,007
Antimony..... lb.	—	—	—	—	—	—	—	—	1,860,731	—	1,860,731	925,000
Bismuth..... lb.	—	—	—	—	14,214	—	—	—	370,442	—	370,442	292,153
Cadmium..... lb.	—	—	—	180,063	21,372	—	—	—	145,634	—	319,941	457,088
—	—	—	—	267,908	—	—	—	—	295,637	—	584,917	861,185
Cadmium..... lb.	—	—	—	—	—	38,909	187,439	—	1,956,028	185,754	2,368,130	1,841,425
Calcium..... lb.	—	—	—	—	—	66,145	318,646	—	3,325,248	315,782	4,025,821	2,798,965
Calcium..... lb.	—	—	—	—	221,225	—	—	—	—	—	221,225	70,259
Cobalt..... lb.	—	—	—	—	282,378	—	—	—	—	—	282,378	85,807
Cobalt..... lb.	—	—	—	—	3,750,596	172,053	—	—	—	—	3,922,649	2,621,240
Copper..... lb.	—	—	—	—	7,541,258	243,165	—	—	7,784,423	—	7,784,423	5,196,088
Copper..... lb.	9,070,766	—	11,476,340	224,818,449	343,406,269	37,101,564	61,193,681	—	30,820,994	330,472	718,218,535	698,929,034
Copper..... lb.	2,625,986	—	3,322,400	65,084,941	98,488,877	10,686,798	17,715,571	—	8,877,743	95,672	206,897,988	178,077,588
Gold..... oz. t.	9,755	45	240	1,006,895	2,578,206	120,008	75,236	416	229,113	413,980	4,433,894	4,534,455
Gold..... oz. t.	327,280	1,510	8,052	33,781,327	86,498,811	4,026,288	2,524,168	13,957	7,686,741	13,889,029	148,757,143	154,065,491
Indium..... oz. t.	—	—	—	—	—	—	—	—	384,360	—	384,360	69,000
Iron ore..... ton	8,174,779	—	—	8,872,948	4,867,105	—	—	—	693,770	—	693,770	155,250
Iron (remelt)..... ton	57,898,102	—	—	65,805,057	41,317,629	—	—	—	357,342	—	22,272,174	15,878,481
Lead..... lb.	—	—	—	187,529	—	—	—	—	2,200,637	—	167,221,425	121,437,285
Lead..... lb.	—	—	—	10,083,494	—	—	—	—	—	—	187,529	118,000
Magnesium..... lb.	49,023,389	—	2,339,993	5,417,795	1,012,565	—	—	—	10,083,434	—	10,083,434	6,342,500
Magnesium..... lb.	6,843,665	—	326,663	1,755,998	141,354	—	—	—	362,968,529	—	362,968,529	371,540,693
Molybdenum..... lb.	—	—	—	15,184,373	—	—	—	—	50,670,407	—	50,670,407	42,095,560
Nickel..... lb.	—	—	—	487,853	4,767,043	—	—	—	16,770,371	—	16,770,371	11,620,205
Nickel..... lb.	—	—	—	783,739	—	—	—	—	5,254,896	—	5,254,896	3,591,064
Nickel..... lb.	—	—	—	1,166,557	—	—	—	—	783,739	—	783,739	566,600
Palladium, Rhodium, etc. oz. t.	—	—	—	354,792,843	20,067,337	—	—	—	—	—	1,166,557	781,231
Platinum..... oz. t.	—	—	—	243,518,138	14,725,014	—	—	—	—	—	375,916,551	278,082,795
Selenium..... lb.	—	—	—	216,582	—	—	—	—	216,582	—	258,977,309	196,733,985
Selenium..... lb.	—	—	—	7,896,209	—	—	—	—	7,896,209	—	7,896,209	4,491,809
Selenium..... lb.	—	—	—	199,565	—	—	—	—	199,565	—	199,565	144,565
Selenium..... lb.	—	—	—	17,835,124	—	—	—	—	17,835,124	—	17,835,124	9,277,140
Selenium..... lb.	—	—	—	168,290	—	26,491	40,152	—	—	—	321,392	403,264
Silver..... oz. t.	—	—	—	1,851,190	951,049	291,401	441,672	—	—	—	3,535,312	2,624,480
Silver..... oz. t.	—	—	—	3,645,856	6,910,130	407,834	1,145,571	—	—	—	28,823,298	31,311,378
Tellurium..... lb.	—	—	—	3,185,384	6,037,381	356,325	1,000,885	39	8,584,991	6,553,289	25,182,915	27,200,192
Tellurium..... lb.	—	—	—	22,928	6,915	575	1,106	34	7,500,707	5,725,608	31,624	43,278
Tin..... lb.	—	—	—	40,124	12,101	1,006	1,838	—	—	—	55,167	74,554
Tin..... lb.	—	—	—	—	—	—	—	—	709,102	—	709,102	718,000
Tin..... lb.	—	—	—	—	—	—	—	—	580,342	—	580,342	692,870

Subsection 3.—Production of Metallic Minerals

The metallic minerals of greatest dollar value in Canada during 1958 were: uranium, nickel, copper, iron ore, gold, zinc, lead and silver. A striking advance was recorded by uranium which became the most valuable of Canada's metals, having moved up from sixth position in 1957. The value of uranium produced was nearly \$100,000,000 higher than the value of nickel which was in second place among the metals. The changes in production and in order of importance of the principal metals during 1957 and 1958 have already been dealt with in Subsection 1, pp. 489-490. The following statistical information gives a comparison of quantity and value figures for each of the principal metals over the ten-year period, 1949-58.

Uranium.—Uranium mineralization has been found in Canada at intervals along the western and southern edges of the Canadian Shield but production is concentrated in four areas within this belt—at Great Bear Lake in the Northwest Territories, Beaverlodge in northern Saskatchewan, and Elliot Lake and Bancroft in Ontario. Although output of uranium first began in the Northwest Territories in 1942, figures were not available until 1954 because of government restrictions. However, it is since that time that the large mines and mills of Saskatchewan and Ontario have come into production. Ontario now contributes well over 75 p.c. of the total value of production, the great mines and mills of its Elliot Lake area constituting the largest uranium-producing camp in the world. At the end of 1958 the industry had in operation a total of 24 mines and 19 mills with a capacity in excess of 42,150 tons of ore a day.

7.—Production and Value of Uranium (U_3O_8), by Province, 1954-58

Year	Ontario		Saskatchewan		Alberta		Canada	
	Quantity ¹	Value	Quantity ¹	Value	Quantity ¹	Value	Quantity ¹	Value
	lb.	\$	lb.	\$	lb.	\$	lb.	\$
1954.....	—	—	..	10,981,417	..	15,486,157	..	26,467,574
1955.....	..	487,054	..	12,312,471	..	13,232,079	..	26,031,604
1956 ^r	906,614	9,361,867	2,780,534	27,194,202	873,912	9,176,076	4,561,060	45,732,145
1957.....	7,970,598	82,940,763	4,462,552	44,561,832	838,264	8,801,769	13,271,414	136,304,364
1958 ^p	21,403,832	221,895,356	5,869,500	58,705,000	964,000	9,628,000	28,237,332	290,228,356

¹ Figures for 1956 include radium salts, silver, cobalt and uranium oxides; figures for 1957-58 are for uranium oxide (U_3O_8).

Nickel.—The output of nickel reached a peak in 1957, both in quantity and value. The steadily upward trend throughout the postwar period was halted in 1958—a rise in world stocks bringing about a decrease in nickel prices—and curtailed production was reflected in a 26-p.c. decrease in tonnage and a 24-p.c. decrease in value. About 95 p.c. of the 1958 production shown in Table 8 came from the Sudbury area of Ontario and most of the remainder from Lynn Lake in Manitoba. A new mine at Rankin Inlet on Hudson Bay in the Northwest Territories started production in 1957 with about 1,000 tons of nickel.

Canada uses only about 4,000 tons of refined nickel annually. Exports amounted to 85,168 tons in 1958, mostly to the United States, and exports of nickel in matte, etc., amounted to 67,659 tons.

8.—Quantity and Value of Nickel Produced, 1949-58

NOTE.—Figures from 1889 are given in the corresponding table of previous Year Books beginning with the 1929 edition.

Year	Quantity	Value	Year	Quantity	Value
	tons	\$		tons	\$
1949.....	128,690	99,173,289	1954.....	166,299	180,173,392
1950.....	123,659	112,104,685	1955.....	174,928	215,866,007
1951.....	137,903	151,269,994	1956 ^r	178,515	222,204,860
1952.....	140,559	151,349,438	1957.....	187,958	258,977,309
1953.....	143,643	160,430,098	1958 ^p	139,041	196,733,985

Copper.—Production of copper reached its peak value in 1956 but in 1957 declining prices began to have their effect. In that year, although the quantity produced increased by almost 4,300 tons, the value dropped by more than \$86,000,000. By 1958 producers, particularly in Ontario, Manitoba and British Columbia, cut production and some low-grade producers suspended operations, bringing the total quantity down from 1957 by nearly 3 p.c. and the total value down by almost 14 p.c. In Newfoundland, however, copper production showed a fourfold increase, and in Quebec and Saskatchewan the quantity produced was also higher than in 1957. The over-all decrease in operations brought copper down from first place among Canada's metals to third.

9.—Copper Production, by Province and Total Value, 1949-58

NOTE.—Figures from 1886 are given in the corresponding table of previous Year Books beginning with the 1916-17 edition.

Year	Newfoundland	Quebec	Ontario	Manitoba	Saskatchewan	British Columbia	Canada	
							Quantity	Value
	tons	tons	tons	tons	tons	tons	tons	\$
1949.....	3,617	67,822	113,042	16,960	34,960	27,055	263,456	104,719,151
1950.....	3,221	72,891	117,210	20,817	28,982	21,086	264,207	123,211,407
1951.....	2,899	68,866	128,808	15,839	31,625	21,932	269,970 ¹	149,026,216 ¹
1952.....	2,959	68,846	125,343	9,374	30,344	20,786	258,038 ²	146,679,040 ²
1953.....	2,814	54,920	130,582	9,411	30,588	24,148	253,252 ³	150,953,742 ³
1954.....	3,481	83,930	140,776	12,274	36,192	25,088	302,732 ⁴	175,712,693 ⁴
1955.....	3,052	101,021 ^r	146,407	19,379 ^r	32,945	22,127	325,994 ⁵	239,756,455 ⁵
1956 ^r	3,108	122,300	156,271	17,973	33,116	21,682	354,860 ⁶	292,958,091 ⁶
1957.....	4,536	112,409	171,703	18,551	30,597	15,410	359,109 ⁷	206,897,988 ⁷
1958 ^p	18,628	131,854	140,736	13,007	37,673	6,759	349,465 ⁸	178,077,588 ⁸

¹ Includes one ton valued at \$536 produced in N.W.T.
² Includes 788 tons valued at \$218,663 produced in Nova Scotia and 3 tons valued at \$1,969 produced in N.W.T.

³ Includes 788 tons valued at \$471,962 produced in Nova Scotia.
⁴ Includes 991 tons valued at \$577,868 produced in Nova Scotia.
⁵ Includes 1,028 tons valued at \$757,758 produced in Nova Scotia and 35 tons valued at \$26,290 produced in New Brunswick.

⁶ Includes 404 tons valued at \$334,704 produced in Nova Scotia and 6 tons valued at \$5,272 produced in New Brunswick.
⁷ Includes 5,738 tons valued at \$3,322,400 produced in New Brunswick and 165 tons valued at \$95,672 produced in N.W.T.

⁸ Includes 355 tons valued at \$180,780 produced in New Brunswick and 453 tons valued at \$230,395 produced in N.W.T.

Iron Ore.—Shipments of iron ore from Canadian mines, after all but retaining in 1957 the high point of 22,348,278 tons reached the previous year, recorded a considerable drop to 15,878,481 tons in 1958. The value of production decreased from \$167,221,425 in 1957 to \$121,437,285 in 1958. All producing provinces—Newfoundland, Quebec, Ontario and British Columbia—contributed to the decline.

This levelling-off in production was the result of a slackening in steel production in the United States and an increase in ore stocks both in that country and in Canada. Exports of iron, in the form of ore or concentrates, in 1958 amounted to 13,878,272 tons valued at \$107,674,258, compared with 20,129,501 tons valued at \$152,281,394 in 1957. Of the 1958 tonnage, almost 70 p.c. went to the United States and most of the remainder to Europe, mainly to the United Kingdom. A small quantity was shipped from British Columbia to Japan.

10.—Iron Ore Shipments and Production of Pig-Iron, Ferro-Alloys and Steel Ingots and Castings, 1949-58

NOTE.—Figures from 1886 are given in the corresponding table of previous Year Books, beginning with the 1936 edition.

Year	Iron Ore Shipments from Canadian Mines		Production of Pig-Iron			Production of Ferro-Alloys ¹	Production of Steel Ingots and Castings
	Quantity	Value	Nova Scotia	Ontario	Canada		
	tons	\$	tons	tons	tons	tons	tons
1949.....	3,675,096	21,203,907	472,885	1,681,600	2,154,485	202,092	3,190,377
1950.....	3,605,261	23,413,547	513,029	1,804,092	2,317,121	180,499	3,383,575
1951.....	4,680,510	31,141,112	485,900	2,066,993	2,552,893	266,252	3,568,720
1952.....	5,271,849	33,744,311	395,262	2,286,323	2,681,585	232,117	3,703,111
1953.....	6,509,818	44,102,944	440,005	2,572,263	3,012,268	153,660	4,116,068
1954.....	7,361,598	49,666,507	314,297	1,896,732	2,211,029	116,141	3,195,030
1955.....	16,283,177	110,435,850	402,759	2,812,608	3,215,367	189,805	4,534,672
1956.....	22,348,278	160,362,118	466,306	3,101,897	3,568,203	240,480	5,301,202
1957.....	22,272,174	167,221,425	522,666	3,195,489	3,718,155	230,031	5,037,864
1958 ^a	15,878,481	121,437,285	392,131	2,668,831	3,060,962	110,754	4,345,2 ²

¹ Factory shipments since 1953.

Gold.—Over the ten-year period 1949-58, Canada's annual gold production has fluctuated narrowly between 4,100,000 oz. t. and 4,500,000 oz. t., and its value between \$140,000,000 and \$169,000,000. Estimates for 1958 show a slight increase in the quantity produced and a little larger increase in value over 1957, more than accounted for by increases in Ontario and Quebec. Newfoundland almost doubled its small 1957 production of 9,755 oz. t. and Saskatchewan output increased by 4,000 oz. t., but in the other producing provinces output declined. Ontario is by far the leading producer, accounting for 58 p.c. of the output in 1958, and Quebec is second with 23 p.c. Canada is the world's third largest producer of gold, accounting for 11 p.c. of world output in 1957.

11.—Quantity and Value of Gold Produced, by Province, 1949-58

NOTE.—Values are calculated at world prices in Canadian funds. Figures from 1862 are given in the corresponding table of previous Year Books beginning with the 1916-17 edition.

Year	Newfoundland		Nova Scotia		Quebec		Ontario	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
	oz. t.	\$	oz. t.	\$	oz. t.	\$	oz. t.	\$
1949.....	9,269	333,684	64	2,304	964,184	34,710,624	2,354,509	84,762,324
1950.....	9,254	352,115	65	2,473	1,094,645	41,651,242	2,481,110	94,406,236
1951.....	8,515	313,778	17	626	1,067,306	39,330,226	2,462,979	90,760,776
1952.....	8,595	294,551	1,433	49,109	1,113,204	38,149,501	2,513,991	86,144,190
1953.....	7,654	263,451	3,248	111,796	1,021,698	35,166,845	2,182,437	75,119,481
1954.....	6,528	222,409	3,754	127,899	1,098,570	37,428,280	2,361,385	80,452,387
1955.....	6,337	218,753	3,880	133,938	1,154,522	39,854,099	2,523,040	87,095,340
1956.....	8,213	282,938	1,279	44,061	1,036,059	35,692,233	2,513,912	86,604,268
1957.....	9,755	327,280	45	1,510	1,006,895	33,781,327	2,578,206	86,498,811
1958 ^a	17,000	577,660	26	883	1,061,363	36,065,115	2,668,264	90,667,612

11.—Quantity and Value of Gold Produced, by Province, 1949-58—concluded

Year	Manitoba		Saskatchewan		Alberta		British Columbia	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
	oz. t.	\$	oz. t.	\$	oz. t.	\$	oz. t.	\$
1949.....	137,399	4,946,364	94,208	3,391,488	115	4,140	304,307	10,955,052
1950.....	191,725	7,295,136	79,784	3,035,781	152	5,784	290,490	11,053,144
1951.....	163,914	6,040,231	110,216	4,061,460	97	3,574	289,992	10,686,205
1952.....	141,947	4,864,524	93,585	3,207,158	111	3,804	273,059	9,357,732
1953.....	131,309	4,519,656	88,327	3,040,215	65	2,237	264,976	9,120,474
1954.....	134,944	4,597,542	101,785	3,467,815	195	6,644	268,508	9,148,068
1955.....	123,888	4,276,614	83,580	2,885,182	214	7,387	252,979	8,732,835
1956.....	120,232	4,141,992	82,687	2,848,567	119	4,100	196,692	6,776,040
1957.....	120,008	4,026,268	75,236	2,524,168	416	13,957	229,113	7,686,741
1958 ^a	88,759	3,016,031	89,179	3,030,302	282	9,582	204,652	6,954,075
Year	Northwest Territories		Yukon Territory		Canada			
	Quantity	Value	Quantity	Value	Quantity	Value		
	oz. t.	\$	oz. t.	\$	oz. t.	\$		
1949.....	177,493	6,389,748	81,970	2,950,920	4,123,518	148,446,648		
1950.....	200,663	7,635,227	93,339	3,551,549	4,441,227	168,988,657		
1951.....	212,211	7,819,975	77,504	2,856,022	4,392,751	161,872,873		
1952.....	247,581	8,484,601	78,519	2,690,846	4,471,725	153,246,016		
1953.....	289,929	9,979,356	66,080	2,274,474	4,055,723	139,597,985		
1954.....	308,563	10,512,741	82,208	2,800,826	4,366,440	148,764,611		
1955.....	321,321	11,092,001	72,201	2,492,379	4,541,962	156,788,528		
1956 ^a	352,669	12,149,447	72,001	2,480,434	4,383,863	151,024,080		
1957.....	340,018	11,407,604	73,962	2,481,425	4,433,894 ¹	148,757,143 ¹		
1958 ^a	335,720	11,392,475	69,210	2,351,756	4,534,455	154,065,491		

¹ Includes 240 oz. t. of gold valued at \$8,052 produced in New Brunswick.

Zinc.—In 1958 the estimated zinc production (including refined zinc, zinc ores and concentrates) was higher than in the previous two years and only 4,720 tons lower than the peak production of 1955. However, depressed prices brought the value down to the lowest point since 1954. Of the 1958 total, 252,000 tons were refined zinc, produced at Trail, B.C., and at Flin Flon, Man. The zinc concentrates produced in Eastern Canada were exported for further processing.

12.—Quantity and Value of Zinc Produced, 1949-58

NOTE.—Figures from 1911 are given in the corresponding table of previous Year Books beginning with the 1939 edition.

Year	Quantity ¹	Value	Average Price per lb.	Year	Quantity ¹	Value	Average Price per lb.
	tons	\$	cts.		tons	\$	cts.
1949.....	288,264	76,372,147	13.25	1954.....	376,491	90,207,285	11.98
1950.....	313,227	98,040,145	15.65	1955.....	433,357	118,306,466	13.65
1951.....	341,112	135,762,643	19.90	1956 ^a	422,642	125,437,344	14.84
1952.....	371,802	129,833,285	17.46	1957.....	413,740	100,042,533	12.09
1953.....	401,762	96,101,386	11.96	1958 ^a	428,637	93,100,167	10.86

¹ Estimated foreign smelter recoveries and refined zinc produced in Canada.

Lead.—Lead production in 1958 in the form of refined pig and recoverable lead in ore and concentrates was estimated to be about 2.3 p.c. higher than in 1957 but value propped 17.0 p.c. Of the total production, British Columbia accounted for 144,684 tons

or 77.0 p.c. The only lead refinery in Canada is located in that province at Trail. Silver-lead ores are mined at Keno Hill in Yukon Territory and lead also occurs in the complex ores at Buchans in Newfoundland. Lead concentrates are produced in Quebec, Ontario and New Brunswick.

13.—Quantity and Value of Lead Produced from Canadian Ores, 1949-58

NOTE.—Figures from 1887 are given in the corresponding table of previous Year Books beginning with the 1929 edition.

Year	Quantity	Value	Year	Quantity	Value
	tons	\$		tons	\$
1949.....	159,775	50,488,879	1954.....	218,495	58,250,831
1950.....	165,697	47,886,452	1955.....	202,762	58,314,500
1951.....	158,231	58,229,146	1956 ^a	188,854	58,582,651
1952.....	168,842	54,671,021	1957.....	181,484	50,670,407
1953.....	193,706	50,076,822	1958 ^a	185,770	42,095,560

Silver.—Silver production in 1958 reached the record amount of 31,300,000 oz. t. with a peak value of \$27,200,000 although the average price per oz. t. was the lowest since 1954. Production of this metal is fairly widespread across the country, being mainly recovered as a by-product in the treatment of gold ores and ores of copper, lead, zinc, cobalt and nickel. British Columbia produced more than 10,000,000 oz. t. from silver-lead-zinc ores and a large part of Ontario's production of 8,081,625 oz. t. originated in the silver-cobalt ores mined at Cobalt. Yukon Territory is the third largest producer followed by Quebec. Canada's annual output of silver is exceeded only by that of Mexico and the United States.

14.—Quantity of Silver Produced, by Province, and Total Value 1949-58

NOTE.—Figures from 1887 are given in the corresponding table of previous Year Books beginning with the 1916-17 edition.

Year	Average Price per oz. t. (Canadian funds)	Newfoundland	Nova Scotia	Quebec	Ontario	Manitoba
	cts.	oz. t.	oz. t.	oz. t.	oz. t.	oz. t.
1949.....	74.25	585,966	3	3,250,578	2,562,859	554,266
1950.....	80.82	575,524	2	4,343,379	4,408,620	893,099
1951.....	94.55	534,519	1	4,154,290	4,520,094	613,141
1952.....	83.52	638,524	91,886	4,536,247	6,491,124	412,149
1953.....	84.01	648,389	226,225	4,571,373	5,154,619	429,508
1954.....	83.26	742,120	262,361	4,907,304	5,443,721	411,125
1955.....	88.18	701,792	262,067	4,786,695	6,051,017	454,528
1956 ^a	89.67	957,125	92,859	4,063,966	6,626,447	450,124
1957.....	87.37	1,196,414	1	3,645,856	6,910,130	407,834
1958 ^a	86.87	1,591,250	1	3,896,659	8,081,625	321,719
	Saskatchewan	British Columbia	Northwest Territories	Yukon Territory	Canada ¹	
	oz. t.	oz. t.	oz. t.	oz. t.	oz. t.	\$
1949.....	1,482,009	7,573,506	70,505	1,562,730	17,641,493	13,098,808
1950.....	1,207,796	8,528,107	62,111	3,202,779	23,221,431	18,767,561
1951.....	1,454,341	8,342,414	64,228	3,442,788	23,125,825	21,865,467
1952.....	1,179,514	7,784,964	59,258	4,028,551	25,222,227	21,065,603
1953.....	1,257,622	9,308,874	63,592	6,639,127	28,209,335	23,774,271
1954.....	1,474,370	10,825,614	59,037	6,992,279	31,117,949	25,907,870
1955.....	1,230,179	8,702,122	58,477	5,712,219	27,984,204	24,676,472
1956 ^a	1,179,110	8,801,398	69,916	6,192,706	28,431,847	25,497,681
1957.....	1,145,571	8,584,991	69,104	6,484,185	28,823,298	25,182,915
1958 ^a	1,323,813	10,115,166	73,355	5,860,499	31,311,378	27,200,192

¹ Includes relatively small quantities produced in New Brunswick and Alberta.

Metals of the Platinum Group.—Production in 1958 was well below the peak of 1957 and since prices of these metals declined during the year, the value dropped to little more than half that of the previous year. The whole production comes from the nickel-copper ores at Sudbury, Ont., and the metals are recovered in the form of residues in the electrolytic refinery tanks at Port Colborne, Ont., and at the refinery in Norway to which the Falconbridge Nickel Company Limited ships nickel-copper matte.

15.—Quantity and Value of Platinum and Palladium¹ Produced, 1949-58

NOTE.—Figures from 1921 are given in the corresponding table of previous Year Books beginning with the 1940 edition.

Year	Platinum		Palladium ¹		Year	Platinum		Palladium ¹	
	oz. t.	\$	oz. t.	\$		oz. t.	\$	oz. t.	\$
1949.....	153,784	11,603,002	182,233	8,289,915	1954....	154,356	12,950,469	189,350	7,956,087
1950.....	124,571	10,255,929	148,741	7,578,144	1955....	170,494	14,747,732	214,252	8,321,633
1951.....	153,483	14,542,515	164,905	7,950,107	1956....	151,357	15,725,992	163,451	6,681,098
1952.....	122,317	10,916,792	167,407	7,559,109	1957....	199,565	17,835,124	216,582	7,896,209
1953.....	137,545	12,550,981	166,018	7,495,409	1958p...	144,565	9,277,140	150,720	4,491,809

¹ Includes also iridium, rhodium, ruthenium.

Subsection 4.—Production of Non-metallic Minerals (excluding Fuels)

Asbestos is by far the most important item in this group in point of value, followed by salt, gypsum and sulphur. These four items are discussed separately below; the quantity and value of other non-metallic minerals produced are shown in Table 2, p. 521.

Asbestos.—There was a 10-p.c. decline in the tonnage of asbestos produced in 1958 as compared with the high point of 1957, and an 8-p.c. decrease in value. Quebec with eight producing mines accounted for 94.5 p.c. of the Canadian total, Ontario had one producer which recorded an output of 21,539 tons and one mine in British Columbia produced 30,045 tons. Asbestos is used to make fire-resistant cloth, brake linings, gaskets, siding and shingles, insulated pipe covering, and fire-resistant paper.

16.—Quantity and Value of Asbestos Produced, 1949-58

NOTE.—Figures from 1896 are given in the corresponding table of previous Year Books beginning with the 1911 edition.

Year	Quantity	Value	Year	Quantity	Value
	tons	\$		tons	\$
1949.....	574,906	39,746,072	1954.....	924,116	66,409,212
1950.....	875,344	65,854,568	1955.....	1,063,802	96,191,817
1951.....	973,198	81,584,345	1956 ^a	1,014,249	99,859,969
1952.....	929,339	89,254,913	1957.....	1,046,086	104,489,431
1953.....	911,226	86,052,895	1958p.....	942,135	96,168,029

Salt.—The production of salt in 1958 reached the record amount of 1,863,866 tons, a 5.2-p.c. increase in tonnage over 1957 and a 6.7-p.c. increase in value. The only producing province to record a decrease was Nova Scotia where output was reduced by nearly 15,000 tons between 1956 and 1958. Brine wells are operated in Nova Scotia, Ontario, Manitoba, Saskatchewan and Alberta and rock salt is mined in Nova Scotia and Ontario only.

17.—Quantity of Salt Produced, by Province, and Total Value 1949-58

NOTE.—Figures from 1928 are given in the corresponding table of previous Year Books beginning with the 1946 edition.

Year	Nova Scotia	Ontario	Manitoba	Saskatchewan	Alberta	Canada	
	tons	tons	tons	tons	tons	tons	\$
1949.....	86,612	607,206	18,734	8,103	28,359	749,014	5,566,725
1950.....	101,930	696,582	16,592	18,186	25,606	858,896	7,011,306
1951.....	127,252	772,585	16,778	28,192	19,718	964,525	7,905,977
1952.....	138,845	757,025	18,113	33,540	24,380	971,903	7,774,815
1953.....	127,819	749,046	18,078	35,100	24,885	954,928	6,974,501
1954.....	150,589	733,066	17,809	37,227	31,196	969,887	8,340,163
1955.....	144,862	998,789	18,954	40,748	41,408	1,244,761	10,122,299
1956 ^r	132,539	1,347,729	21,068	42,814	46,654	1,590,804	12,144,476
1957.....	122,763	1,538,805	19,372	43,684	46,935	1,771,559	13,989,703
1958 ^p	117,800	1,624,666	21,700	45,500	54,200	1,863,866	15,482,850

Gypsum.—Nova Scotia deposits provided over 77 p.c. of the 4,043,364 tons of gypsum mined in 1958. A decrease of 11 p.c. in total tonnage produced was offset by price increases which brought the value of production to over \$8,300,000, for a net gain of 7 p.c. over the 1957 figure of nearly \$7,800,000. Gypsum is exported in crude form to United States plants for processing. In Canada gypsum is used in the manufacture of plaster and wallboard and is added to Portland cement to control the setting.

18.—Quantity of Gypsum Produced, by Province, and Total Value 1949-58

NOTE.—Figures from 1926 are given in the corresponding table of previous Year Books beginning with the 1943-44 edition.

Year	Newfoundland	Nova Scotia	New Brunswick	Ontario	Manitoba	British Columbia	Canada	
	tons	tons	tons	tons	tons	tons	tons	\$
1949.....	—	2,555,795	80,436	203,187	94,918	79,913	3,014,249	5,423,690
1950.....	—	3,185,199	82,641	199,314	114,555	84,627	3,666,336	6,707,506
1951.....	—	3,190,030	109,469	262,581	134,704	105,908	3,802,692	5,880,853
1952.....	8,660	2,969,312	110,183	278,992	130,934	92,702	3,590,783	6,538,074
1953.....	26,531	3,050,832	120,816	334,495	163,313	145,470	3,841,457	7,399,884
1954.....	26,653	3,168,134	88,856	357,432	162,037	147,310	3,950,422	7,094,671
1955.....	46,459	3,838,847	90,096	366,416	176,005	150,078	4,667,901	8,037,153
1956 ^r	37,000	4,144,147	86,104	366,956	185,986	75,618	4,895,811	7,260,236
1957.....	29,465	3,842,027	93,249	379,621	183,708	49,422	4,577,492	7,745,105
1958 ^p	30,000	3,131,700	108,738	431,126	270,000	71,800	4,043,364	8,302,037

Sulphur.—Figures in Table 19 represent the quantity and value of sulphur contained in derivatives from smelter gases such as sulphur dioxide, sulphuric acid, etc., and in pyrite and pyrrhotite shipments. Sulphur refined from natural gas production is not included.

In Canada sulphur is used in the treatment of sulphite pulps and in the manufacture of rayon, explosives, rubber goods, petroleum refining, matches and insecticides.

19.—Quantity and Value of Sulphur Produced from Smelter Gases and in Pyrite and Pyrrhotite Shipments, 1949-58

Year	Sulphur in Smelter Gases		Producers' Shipments Pyrite and Pyrrhotite		
	Quantity	Value	Gross Weight	Sulphur Content	Value
	tons	\$	tons	tons	\$
1949.....	144,290	1,442,900	250,476	117,581	596,154
1950.....	150,685	1,506,850	312,614	150,487	682,810
1951.....	156,427	1,564,275	444,948	215,363	1,556,510
1952.....	160,547 ¹	1,605,470	553,987	263,241 ²	2,245,713
1953.....	172,200 ¹	1,722,000	408,257	186,650 ²	1,450,698
1954.....	221,247 ¹	2,212,470	687,928	311,159 ²	2,663,499
1955.....	224,457 ¹	2,244,570	878,452	403,988 ²	3,740,383
1956.....	236,088 ²	2,323,590	1,046,740	473,605	4,538,785
1957.....	235,123 ²	2,322,067	1,166,416	515,096	4,808,228
1958.....	236,478 ²	2,326,080	1,181,281	508,213	4,496,372

¹ Does not include sulphur in acid made from roasting zinc sulphide concentrates at Arvida.

² Includes sulphur in acid made from roasting zinc sulphide concentrates at Arvida.

Subsection 5.—Production of Fuels

Coal.—The production of coal continued its downward trend in 1958, recording a reduction of 11.4 p.c. in both quantity and value from 1957. All producing provinces except Saskatchewan shared in the decrease. Imports and exports were also considerably lower.

20.—Coal Production, by Province, 1949-58

NOTE.—Figures from 1874 are given in the corresponding table of previous Year Books beginning with the 1911 edition.

Year	Nova Scotia	New Brunswick	Saskatchewan	Alberta	British Columbia	Yukon Territory	Canada	
	tons	tons	tons	tons	tons	tons	tons	\$
1949.....	6,181,779	540,806	1,870,487	8,616,855	1,906,963	3,153	19,120,043	110,915,121
1950.....	6,478,405	607,116	2,203,223	8,116,220	1,730,445	3,703	19,139,112	110,140,399
1951.....	6,307,629	653,439	2,223,318	7,659,329	1,739,412	3,696	18,586,823	109,038,855
1952.....	5,905,265	742,823	2,083,465	7,194,757	1,644,250	8,442	17,579,002	111,026,149
1953.....	5,787,026	721,252	2,021,304	5,917,474	1,443,006	10,611	15,900,673	102,721,875
1954.....	5,842,896	781,271	2,116,740	4,859,049	1,299,510	14,113	14,913,579	96,600,266
1955.....	5,731,026	877,838	2,293,816	4,455,279	1,453,881	7,040	14,818,880	93,579,471
1956.....	5,775,025	988,266	2,341,641	4,328,787	1,472,519	9,372	14,915,610	95,349,763
1957.....	5,685,770	976,597	2,248,812	3,156,546	1,113,699	7,731	13,189,155	90,220,670
1958.....	5,269,879	790,719	2,253,176	2,519,901	849,091	4,344	11,687,110	79,963,327

21.—Imports of Anthracite, Bituminous and Lignite Coal, 1949-58

NOTE.—Figures from 1868 are given in the corresponding table of previous Year Books beginning with the 1911 edition.

Year	Anthracite ¹		Bituminous ²		Lignite		Totals ³	
	tons	\$	tons	\$	tons	\$	tons	\$
1949.....	3,945,135	45,656,328	18,233,528	95,403,106	16,547	89,629	22,195,210	141,149,063
1950.....	4,286,383	54,285,320	22,660,969	120,443,963	7,471	34,848	26,954,823	174,764,131
1951.....	3,853,431	51,244,639	22,938,824	116,802,323	9,150	42,486	26,801,405	168,089,448
1952.....	3,894,863	49,430,308	21,030,503	101,203,443	7,487	33,403	24,932,853	150,667,154
1953.....	2,989,054	40,088,265	20,273,425	96,464,453	3,062	14,735	23,265,541	136,567,453
1954.....	2,754,882	33,163,183	15,822,283	71,617,515	2,824	14,500	18,579,989	104,795,198
1955.....	2,646,503	30,190,088	17,094,480	76,352,171	1,548	8,663	19,742,531	106,550,922
1956.....	2,545,627	30,060,480	20,065,807	98,666,368	1,940	9,822	22,613,374	128,736,670
1957.....	1,925,498	24,605,035	17,548,585	93,027,907	2,166	11,087	19,476,249	117,644,029
1958.....	1,556,018	19,130,513	12,934,262	68,880,374	1,035	5,095	14,491,315	88,015,982

¹ Includes anthracite dust.

² Includes coal ex-warehoused for ships' stores.

³ Canada also

imported 186,971 tons of briquettes of coal or coke valued at \$2,185,707 in 1949, 191,134 tons valued at \$2,316,570 in 1950, 170,157 tons valued at \$2,061,798 in 1951, 155,597 tons valued at \$1,868,619 in 1952, 128,673 tons valued at \$1,601,376 in 1953, 128,163 tons valued at \$1,583,610 in 1954, 124,216 tons valued at \$1,536,347 in 1955, 126,724 tons valued at \$1,581,699 in 1956, and 73,306 tons valued at \$937,679 in 1957.

22.—Exports of Domestic Coal, 1949-58

NOTE.—Figures from 1868 are given in the corresponding table of previous Year Books beginning with the 1911 edition.

Year	Quantity	Value	Year	Quantity	Value
	tons	\$		tons	\$
1949.....	432,043	3,563,892	1954.....	219,346	1,716,435
1950.....	394,961	3,198,040	1955.....	592,782	4,870,598
1951.....	435,083	3,495,664	1956.....	594,166	4,710,030
1952.....	388,960	3,203,522	1957.....	396,311	3,357,959
1953.....	255,274	1,999,908	1958.....	338,544	2,907,513

The sources of coal consumed in Canada in the years 1949-57 are shown in Table 23 and detailed figures of coal made available for consumption in 1957 and 1958 are given in Table 24; the difference between the totals of the two tables in the same year is accounted for by the fact that coal received may be held in bond at Canadian ports and not cleared for consumption until required, and coal received in previous years may be taken out of bond (cleared for consumption) in a later year. Normally the coal made available for consumption is greater than the apparent domestic consumption as coal is landed at Canadian ports and re-exported or ex-warehoused for ships' stores without being taken out of bond but, while remaining in bond at the port, it is available for domestic consumption if required. Consumption figures for 1958 were not available at time of writing.

23.—Consumption of Canadian and Imported Coal in Canada, 1949-57

NOTE.—Figures from 1886 are given in the corresponding table of previous Year Books beginning with the 1921 edition.

Year	Canadian Coal ¹		Imported Coal 'Entered for Consumption'				Grand Total	Consumption per Capita ³
			From United States	From United Kingdom	Total ²			
	tons	p. c.	tons	tons	tons	p. c.	tons	tons
1949.....	18,104,626	45.3	21,501,583	331,457	21,833,057	54.7	39,937,683	2.97
1950.....	18,224,944	40.6	26,224,893	423,874	26,649,049	59.4	44,873,993	3.27
1951.....	17,571,154	39.8	26,232,211	291,656	26,523,921	60.2	44,095,075	2.92
1952.....	16,749,416	40.5	24,248,804	356,032	24,603,789	59.5	41,353,205	2.87
1953.....	15,240,105	40.0	22,548,793	352,383	22,900,392	60.0	38,140,497	2.58
1954.....	14,466,212	44.0	18,054,962	266,304	18,322,056	56.0	32,788,268	2.16
1955.....	14,060,039	42.1	19,053,434	269,898	19,322,134	57.9	33,382,173	2.14
1956.....	14,115,095	38.9	22,045,485	153,404	22,198,049	61.1	36,313,144	2.26
1957.....	12,478,626	39.6	18,902,822	134,671	19,037,493	60.4	31,516,119	1.90

¹ The sum of Canadian coal mines' sales, colliery consumption, coal supplied to employees and coal used in making coke, etc., less the tonnage of coal exported. ² Includes small tonnages from countries other than the United Kingdom and the United States. Deductions have been made from this column to take account of foreign coal re-exported from Canada and bituminous coal ex-warehoused for ships' stores. ³ Figures based on estimates of population given at p. 162.

24.—Coal Made Available for Consumption in Canada, 1957 and 1958

NOTE.—Details by provinces are given in DBS annual report, *The Coal Mining Industry*.

Grade	Canadian Coal				Coal Imported ¹		Coal Made Available for Consumption	
	Produced		Exported					
	1957	1958	1957	1958	1957	1958	1957	1958
	tons	tons	tons	tons	tons	tons	tons	tons
Anthracite.....	—	—	—	—	1,897,790	1,494,702	1,897,790	1,494,702
Bituminous.....	9,050,742	7,748,289	273,446	212,823	18,039,343	11,831,203	26,816,639	19,366,669
Subbituminous..	1,889,601	1,685,645	611	1,086	—	—	1,888,990	1,684,559
Lignite.....	2,248,812	2,253,176	9,393	8,341	—	—	2,239,419	2,244,835
Totals.....	13,189,155	11,687,110	283,450	222,250	19,937,133	13,325,905	32,842,838	24,790,765

¹ Coal reaching Canadian ports whether or not it is cleared through customs, exclusive of 64,942 tons of imported briquettes in 1957 and 35,905 tons in 1958.

Petroleum.—The upward climb of crude petroleum production in evidence since the discovery of the Leduc field in Alberta in 1947 was halted temporarily in 1958. Decreased demand resulted in a drop of 8.5 p.c. in the quantity produced as compared with 1957, mostly accounted for by Alberta which produced 67.5 p.c. of the total output. In proportion to their lesser output, moderate increases were shown by Saskatchewan, Ontario, the Northwest Territories and British Columbia.

25.—Quantity and Value of Crude Petroleum Produced, by Province, 1949-58

NOTE.—Figures from 1936 are given in the corresponding table of previous Year Books beginning with the 1948-49 edition.

Year	New Brunswick	Ontario	Manitoba	Saskatchewan	Alberta	Northwest Territories	Canada
QUANTITY							
	bbl.	bbl.	bbl.	bbl.	bbl.	bbl.	bbl.
1949.....	19,544	260,670	—	782,188	20,087,418	155,528	21,305,348
1950.....	17,137	250,655	—	1,041,098	27,548,169	186,729	29,043,788
1951.....	15,551	197,171	10,698	1,249,281	45,915,384	227,449	47,615,534
1952.....	14,237	191,814	104,826	1,696,505	58,915,723	314,217	61,237,322
1953.....	14,738	299,685	653,514	2,797,888	76,816,383	316,689	80,898,897
1954.....	13,046	412,474	2,148,184	5,422,899	87,713,855	369,887	96,080,345
1955.....	12,548	525,510	4,145,756	11,317,168	113,035,046	404,219	129,440,247
1956 ^a	16,628	593,370	5,786,540	21,077,371	143,909,641	449,409	171,981,413 ¹
1957.....	19,401	623,666	6,089,743	36,861,089	137,492,316	420,844	181,848,004 ²
1958 ^b	15,400	770,868	5,900,000	46,500,000	112,300,000	471,000	166,476,268 ³
VALUE							
	\$	\$	\$	\$	\$	\$	\$
1949.....	27,362	901,143	—	836,941	58,999,936	353,108	61,118,490
1950.....	23,992	892,000	—	1,134,797	82,216,492	352,656	84,619,937
1951.....	21,771	677,905	26,478	1,659,045	113,870,152	399,887	116,655,238
1952.....	19,932	641,037	229,299	2,256,352	139,512,432	379,160	143,038,212
1953.....	20,633	994,835	1,714,806	3,833,107	193,761,644	257,251	200,582,276
1954.....	18,265	1,391,687	5,619,649	8,183,304	228,319,165	344,960	243,877,030
1955.....	17,567	1,599,335	9,618,154	18,317,968	274,901,232	1,185,780	305,640,036
1956 ^a	23,279	1,958,121	13,633,088	36,253,078	353,629,158	762,773	406,561,872 ¹
1957.....	27,161	2,160,000	15,467,947	79,325,064	355,555,140	294,591	453,593,620 ²
1958 ^b	21,560	2,606,000	14,475,555	100,905,000	281,536,100	475,000	401,027,215 ³

¹ Includes 148,454 bbl. valued at \$302,375 produced in British Columbia.² Includes 340,945 bbl. valued at \$763,717 produced in British Columbia.³ Includes 519,000 bbl. valued at \$1,008,000 produced in British Columbia.

Natural Gas Production.—Extensive pipeline construction, permitting the delivery of natural gas to more distant markets, resulted in increased shipments of this commodity to 338,000,000,000 cu. feet in 1958 as compared with 220,006,682,000 cu. feet in 1957. Alberta has by far the major production of natural gas, its flow amounting to 245,500,000,000 cu. feet. Several plants have been built in Alberta to treat natural gas for the removal of sulphur, butane, propane and other hydrocarbons prior to delivery to the transmission pipelines which now extend eastward as far as Quebec City and westward to Vancouver and the northwestern United States.

26.—Quantities of Natural Gas Produced, by Province, and Total Value 1949-58

NOTE.—Figures from 1920 are given in the corresponding table of previous Year Books beginning with the 1940 edition.

Year	New Brunswick	Ontario	Saskatchewan	Alberta	Northwest Territories	Canada	
	M cu. ft.	M cu. ft.	M cu. ft.	M cu. ft.	M cu. ft.	M cu. ft.	\$
1949	375,035	8,024,213	812,916	51,179,779	65,234	60,457,177	11,620,302
1950	361,877	8,009,488	813,554	58,603,976	33,335	67,822,230	6,433,041
1951	261,579	8,442,842	860,082	69,876,831	19,333	79,460,667	7,158,920
1952	202,042	8,302,190	1,007,491	79,149,895	24,847	88,686,465	9,517,638
1953	177,112	9,708,969	1,422,128	89,651,605	26,109	100,985,923	10,877,017
1954	183,457	10,015,818	3,333,077	107,173,777	29,085	120,735,214	12,482,109
1955	186,549	10,852,857	6,706,743	133,007,493	18,670	150,772,312	15,098,508
1956 ¹	190,322	12,811,618	9,807,697	146,133,893	21,210	169,152,586	16,849,556 ¹
1957	176,417	14,400,913	13,994,347	183,140,820	19,243	220,006,682	20,962,501 ²
1958 ³	122,500	14,400,000	15,900,000	245,500,000	21,500	337,996,000	28,487,600 ³

¹ Includes 187,846 M cu. feet valued at \$20,193 produced in British Columbia.

feet valued at \$366,867 produced in British Columbia.

² Includes 8,274,942 M cu.

³ Includes 62,052,000 M cu. feet valued at \$3,200,000

produced in British Columbia.

Subsection 6.—Production of Structural Materials

Active construction throughout Canada in 1957 and 1958 kept production of all structural materials at a high level. In 1957 this group registered an advance of 14 p.c. to reach a then record total value of nearly \$297,000,000. A new record was set in 1958 when a further 6-p.c. increase brought the total value for the year to over \$314,000,000. All provinces shared in the general increase except New Brunswick and British Columbia. In New Brunswick a 42-p.c. decrease in the value of sand and gravel produced reflected the completion of such heavy construction projects as the Beechwood power project on the St. John River; and in British Columbia the total was affected by a decrease of 18 p.c. in the value of clay products produced and a 5-p.c. decrease in the value of cement produced, the latter despite an increase in tonnage. For Canada as a whole, however, gains of 18 p.c. in the value of clay products, 17 p.c. in tonnage of lime, and just over 5 p.c. in the tonnage of sand and gravel highlighted 1958. Cement production and the quarrying of building stone were practically unchanged from the preceding year.

Cement.—A rise of 20 p.c. in the tonnage of cement produced brought the total to 6,049,098 tons in 1957. Ontario contributed 36 p.c. of this total, Quebec 34 p.c. and all other provinces except Prince Edward Island contributed varying amounts. In 1958 the picture changed little—total production was only slightly higher and the contributions of the two major producers were relatively unchanged. However, price increases of nearly 3 p.c. brought the total value to a record high of close to \$96,000,000.

27.—Quantity and Value of Production, Imports, Exports and Apparent Consumption of Cement, 1949-58

NOTE.—Figures from 1910 are given in the corresponding table of previous Year Books beginning with the 1939 edition.

Year	Shipments (sold or used)		Imports	Exports	Apparent Consumption ¹
	tons	\$	tons	tons	tons
1949.....	2,785,399	32,901,936	399,700	3,362	3,181,737
1950.....	2,929,820	35,894,124	242,588	4,184	3,168,224
1951.....	2,976,367	40,446,288	407,300	453	3,383,214
1952.....	3,241,095	48,059,470	509,947	754	3,750,288
1953.....	3,891,708	58,842,022	434,487	2,577	4,323,618
1954.....	3,926,559	59,035,644	401,135	21,638	4,306,056
1955.....	4,404,480	65,650,025	517,890	168,907	4,753,463
1956.....	5,021,683	75,233,021	677,616 ²	124,561	5,574,738
1957.....	6,049,098	93,167,477	92,380	338,315	5,803,163
1958 ^p	6,068,977	95,869,547	41,550	141,250	5,969,277

¹ Shipments plus imports less exports.

² Includes imported clinker, other than white.

Clay Products.—The sales value of clay products produced in 1958 was the highest recorded. Common clays suitable for the production of building bricks and tile are found in all the provinces; production is greatest in Ontario and Quebec. Stoneware clays are produced largely from the Eastend and Willows areas in Saskatchewan and shipped to Medicine Hat, Alta., where, utilizing the cheap gas fuel, they are manufactured into stoneware, sewer pipe, pottery, tableware, etc. Stoneware clay also occurs in Nova Scotia and, although it has not been developed extensively for ceramic use, some is used for pottery. Two large plants and a few small plants manufacture fireclay refractories from domestic clay in British Columbia, Saskatchewan and Nova Scotia. Deposits of high-grade, plastic, white burning clays occur in northern Ontario and deposits yielding high-grade china clay have been found along the Fraser River in British Columbia but these have not been used on a commercial scale, nor have the ball clays of high bond strength occurring in the white mud beds of southern Saskatchewan been developed to any extent.

28.—Value (Total Sales) of Clay Products Produced, by Province, 1949-58

NOTE.—Figures from 1926 are given in the corresponding table of previous Year Books beginning with the 1946 edition.

Year	New- foundland	Nova Scotia	New Brunswick	Quebec	Ontario
	\$	\$	\$	\$	\$
1949.....	25,450	1,053,845	515,767	5,580,421	7,435,439
1950.....	31,089	1,126,969	681,139	6,324,387	9,323,263
1951.....	32,183	1,202,428	740,861	6,776,430	10,484,341
1952.....	29,285	1,221,893	655,084	6,645,387	11,975,200
1953.....	39,500	1,234,319	620,769	8,070,942	14,829,222
1954.....	33,042	1,082,039	587,994	8,055,692	17,230,231
1955.....	49,338	1,196,968	704,025	8,451,362	18,314,320
1956 ²	47,145	1,196,868	975,855	9,415,703	19,173,336
1957.....	29,500	1,345,361	803,169	8,898,855	18,353,299
1958 ^p	68,000	1,493,039	920,279	10,672,466	23,166,721

28.—Value (Total Sales) of Clay Products Produced, by Province, 1949-58—concluded

Year	Manitoba	Saskatchewan	Alberta	British Columbia	Canada
	\$	\$	\$	\$	\$
1949.....	514,705	545,588	1,603,199	707,295	17,981,709
1950.....	690,730	581,506	1,950,309	1,081,496	21,790,888
1951.....	673,698	616,655	1,787,731	1,213,329	23,527,656
1952.....	575,088	711,778	1,964,618	1,183,195	24,961,528
1953.....	568,477	742,959	2,135,085	1,536,458	29,777,731
1954.....	512,989	844,398	2,316,982	1,696,731	32,360,098
1955.....	635,554	992,307	2,800,481	2,115,415	35,259,770
1956 ¹	754,503	1,054,071	3,038,544	2,128,955	37,784,980
1957.....	827,697	1,015,389	2,628,187	2,020,701	35,922,158
1958 ¹	735,894	1,208,760	2,682,748	1,663,992	42,611,899

Sand, Gravel and Stone.—Deposits of sand and gravel are numerous throughout Eastern Canada with the exception of Prince Edward Island where gravels are scarce. The local needs for these materials are usually supplied from the nearest deposits as their cost to the consumer is governed largely by the length of the haul. This accounts for the large number of small pits and the small number of large plants. Every province except New Brunswick and Prince Edward Island produces natural bonded sand but some grades particularly suitable for certain industries demand a much higher price than ordinary sand. Quebec and Ontario contributed 68 p.c. of the total quantity of sand and gravel in 1958. The greater part of the output is used in road improvement, concrete works and railway ballast, and most of the commercial plants are equipped for producing crushed gravel, a product that can compete with crushed stone.

The stone industry has two main divisions, stone quarrying and the stone products industry. The granite, limestone, marble, sandstone and slate quarries of Canada yield high-grade structural and decorative materials and also supply requirements for chemical and other allied industries. The gross value of stone of all varieties produced in Canada in 1958 totalled \$57,700,000 as compared with \$59,197,662 in 1957. Detailed data for sand, gravel and stone for 1958 was not available at time of writing.

29.—Quantity and Value of Sand, Sand and Gravel, and Stone Produced, 1955-57

Material and Purpose	1955		1956		1957	
	Quantity	Gross Value	Quantity	Gross Value	Quantity	Gross Value
	tons	\$	tons	\$	tons	\$
Sand—						
Moulding sand.....	15,838	43,468	26,871	71,163	17,618	60,284
For building, concrete, roads, etc.....	12,341,052	9,879,011	11,902,438	9,219,153	14,173,048	9,673,088
Other.....	427,295	220,031	553,030	369,680	435,483	388,213
Sand and Gravel—						
For railway ballast.....	5,129,714	1,711,776	7,124,461	2,493,086	7,687,770	3,057,655
For concrete, roads, etc.....	83,941,517	40,245,390	102,177,661	51,832,543	108,654,941	56,593,792
For mine filling.....	5,249,860	1,467,341	2,947,289	848,259	3,374,630	880,085
Crushed gravel.....	20,419,198	14,208,036	24,069,518	17,123,468	25,486,017	21,286,237
Totals, Sand and Gravel.....	127,521,474	67,775,053	148,801,268	81,957,352	159,829,512	91,939,354
Stone—						
Building.....	137,664	5,103,812	139,473	4,929,535	129,865	5,737,049
Monumental and ornamental.....	14,889	1,152,288	15,019	1,159,881	17,045	1,241,504
Stone for agriculture.....	426,041	1,031,621	476,506	1,232,874	610,398	1,471,841
Chemical Uses—						
Flux.....	1,546,288	1,824,847	1,667,251	2,093,475	1,584,059	1,788,177
Pulp and paper.....	450,329	1,376,294	433,840	1,260,158	395,725	1,214,710
Other.....	437,620	506,989	295,865	368,195	285,219	411,913
Rubble and riprap.....	2,116,646	2,628,355	1,338,988	1,383,843	3,958,004	5,831,052
Crushed.....	25,051,872	28,480,399	28,407,923	34,299,671	33,010,716	39,665,985
Totals, Stone¹.....	30,512,920	43,736,687	33,257,318	43,809,918	49,282,081	59,197,662

¹ Includes minor items not specified.

Section 5.—Industrial Statistics of the Mineral Industry

The scope of the annual statistics on mineral production published by the Dominion Bureau of Statistics includes a general review of the principal mineral industries such as the copper-gold, silver-lead-zinc, and nickel-copper industries as well as a section on metallurgical works. Additional data published at irregular intervals include such features as numbers of employees, salaries and wages paid and net value of shipments.

The figures for 'net value of shipments' of industries given in Tables 30 and 31 are, in each table, the settlements received for shipments by producers and the additional values obtained when the smelting of ores is completed in Canada, less the cost of materials, fuel, etc. The totals indicate more nearly the actual returns to the different industries than do the values for the minerals in Table 2 of this Chapter where, with respect to copper, lead, zinc and silver, values are computed by applying the average prices for the year in the principal metal markets to the total production from mines and smelters with no reduction for fuel, electricity and other supplies consumed in the production process.

Some imported ores and concentrates are treated in Canadian non-ferrous smelting and refining works, especially in the production of aluminum, where imported ore only is used, and of cobalt which is derived mainly from African ores. The net shipments of these plants include therefore the net value of the metals recovered from these imported ores and to this extent the net shipments shown in Tables 30 and 31 include products of other than Canadian origin.

30.—Summary Statistics of the Mineral Industry, by Province, 1957

Province or Territory	Plants or Mines	Em- ployees	Salaries and Wages	Purchased Fuel, Electricity and Process Supplies ¹	Net Value of Shipments ²
	No.	No.	\$	\$	\$
Newfoundland.....	861	4,694	18,474,608	31,060,828	46,471,402
Nova Scotia.....	637	10,827	34,924,921	13,903,992	54,799,518
New Brunswick.....	551	2,222	7,136,701	7,474,764	15,501,549
Quebec.....	4,646	37,540	150,599,715	431,461,243	412,047,336
Ontario.....	6,904	53,847	235,751,851	485,750,908	597,907,855
Manitoba.....	1,217	3,143	13,320,716	15,460,568	38,484,038
Saskatchewan.....	3,774	5,765	28,233,058	30,896,254	144,563,138
Alberta.....	9,648	9,124	38,552,275	23,504,372	397,962,407
British Columbia.....	1,103	16,252	70,948,719	165,798,173	140,863,635
Northwest Territories.....	80	1,255	7,239,682	3,495,718	18,311,041
Yukon Territory.....	33	795	4,419,577	5,286,500	6,702,488
Canada.....	29,453³	145,464	609,601,823	1,214,093,320	1,873,614,407

¹ Includes freight and smelter charges and cost of ores treated.
process supplies, fuel, electricity, freight and smelter charges.
and Saskatchewan credited to both provinces.

² Gross value of shipments less cost of

³ One plant on the border between Manitoba

A summary of the industrial statistics of the principal mineral industries operating in Canada in the years 1953 to 1957 is presented in Table 31.

31.—Summary Statistics of the Principal Mineral Industries, 1953-57

Industry and Year	Plants or Mines	Em- ployees	Salaries and Wages	Purchased Fuel, Electricity and Process Supplies ¹	Net Value of Shipments ²
	No.	No.	\$	\$	\$
Metallics 1953	574	76,826	285,940,984	713,345,667	643,620,543
1954	715	77,647	297,792,840	734,303,351	744,264,529
1955	818	81,970	329,437,928	971,546,007	909,932,534
1956	909	88,352	373,086,515	1,120,058,717	1,020,228,528
1957	867	92,167	413,308,141	1,088,705,583	982,697,540
Placer gold.....1953	56	306	1,372,504	259,011	1,878,310
1954	62	351	1,619,460	476,627	2,575,038
1955	64	345	1,480,868	284,511	2,443,595
1956	64	250	1,378,166	567,522	2,026,790
1957	57	243	1,180,225	457,137	2,116,716
Gold quartz.....1953	173	18,751	60,920,362	30,973,120	91,408,605
1954	157	18,479	63,578,156	32,017,855	95,627,104
1955	136	18,032	63,961,744	33,094,300	101,382,077
1956	133	17,031	62,701,494	30,972,433	97,011,062
1957	147	16,911	63,708,680	31,064,661	95,991,241
Copper-gold-silver.....1953	84	7,476	27,582,448	31,970,373	68,881,908
1954	118	7,837	29,791,332	35,079,924	70,814,052
1955	186	9,025	36,391,460	45,729,136	99,540,486
1956	314	10,533	43,929,096	50,245,735	96,941,696
1957	261	10,359	46,694,352	50,319,084	68,694,057
Silver-cobalt.....1953	14	739	2,204,274	1,387,416	3,235,991
1954	15	808	2,614,266	1,191,243	4,103,256
1955	14	762	2,598,437	1,184,721	4,350,174
1956	15	694	2,415,545	1,061,309	3,502,093
1957	12	598	2,209,805	1,208,400	3,105,688
Silver-lead-zinc.....1953	143	7,144	28,695,473	55,904,834	67,898,350
1954	124	6,386	24,847,011	58,178,798	78,077,960
1955	103	6,529	26,741,770	57,523,638	82,663,039
1956	96	6,358	27,253,247	56,316,672	86,604,019
1957	83	5,844	26,256,837	56,476,096	59,485,349
Nickel-copper.....1953	32	11,511	47,596,673	16,199,809	64,973,869
1954	37	11,244	48,142,987	19,576,040	74,891,033
1955	38	10,953	48,670,802	20,573,009	75,454,036
1956	55	11,872	55,486,888	20,880,263	82,735,929
1957	85	12,124	59,807,695	26,279,245	84,148,711
Iron ³ 1955	30	4,892	18,740,274	38,646,915	71,788,935
1956	40	6,469	29,249,650	60,755,398	99,606,720
1957	60	7,770	36,288,939	64,519,888	102,701,537
Miscellaneous metals.....1953	54	5,784	23,023,639	15,940,190	35,136,282
1954	180	6,494	24,603,658	17,241,822	66,138,130
1955	223	2,826	12,663,195	6,798,377	28,305,111
1956	169	4,377	20,532,485	13,712,560	40,781,866
1957	139	8,705	42,386,402	28,901,555	116,788,076
Smelting and refining.....1953	18	25,115	94,545,611	560,710,914	310,207,228
1954	22	26,048	102,595,970	570,541,042	352,037,956
1955	24	28,606	118,189,378	767,711,400	444,005,081
1956	23	30,788	130,139,944	885,546,825	511,018,353
1957	23	29,613	134,775,206	829,479,487	450,666,165
Non-metallics 1953	210	11,099	36,891,610	23,208,288	96,771,684
1954	207	10,892	37,878,138	23,474,927	98,626,771
1955	243	11,722	42,390,871	27,496,572	112,871,520
1956	209	12,548	47,128,001	30,158,075	122,414,048
1957	192	12,310	48,361,030	32,530,865	126,561,143

For footnotes, see end of table, p. 545.

31.—Summary Statistics of the Principal Mineral Industries, 1953-57—continued

Industry and Year	Plants or Mines	Em- ployees	Salaries and Wages	Purchased Fuel, Electricity and Process Supplies ¹	Net Value of Shipments ²
	No.	No.	\$	\$	\$
Non-metallics—concluded					
Asbestos.....1953	24	6,482	24,567,463	14,088,699	71,990,225
.....1954	25	6,563	24,850,100	14,054,972	72,386,464
.....1955	30	6,729	28,116,049	16,297,401	83,378,250
.....1956	23	7,065	30,411,878	17,877,081	85,427,228
.....1957	22	7,357	32,283,287	20,566,634	87,447,407
Feldspar, quartz and nepheline syenite..1953	33	431	1,358,308	635,037	3,375,154
.....1954	29	377	1,193,766	554,188	3,107,993
.....1955	33	414	1,359,695	775,685	3,734,690
.....1956	30	502	1,792,484	759,489	5,258,255
.....1957	28	450	1,737,907	1,185,023	5,310,235
Gypsum.....1953	14	954	2,891,848	2,059,208	5,340,676
.....1954	14	932	2,929,829	2,166,490	4,929,289
.....1955	14	944	2,874,198	2,190,435	5,846,718
.....1956	15	1,030	3,317,673	2,357,526	4,902,710
.....1957	13	816	2,653,320	1,908,543	5,836,562
Iron oxide.....1953	4	37	83,095	42,843	152,958
.....1954	3	31	67,564	35,985	150,871
.....1955	4	33	71,781	44,156	121,772
.....1956	3	29	49,669	38,745	152,400
.....1957	3	26	64,011	51,100	141,288
Mica.....1953	44	105	152,284	26,351	134,777
.....1954	32	44	59,194	13,932	71,207
.....1955	33	31	42,495	11,648	66,727
.....1956	23	23	37,673	8,841	88,208
.....1957	25	45	66,283	12,996	100,462
Peat.....1953	36	955	1,579,715	984,997	2,447,096
.....1954	40	880	1,736,002	1,140,795	2,824,777
.....1955	39	1,180	2,109,166	1,350,085	3,301,326
.....1956	38	1,274	2,538,885	1,427,053	4,024,252
.....1957	35	1,168	2,542,210	1,466,080	4,432,616
Salt.....1953	12	676	1,957,318	2,826,033	5,579,756
.....1954	13	669	2,067,424	2,702,731	7,151,404
.....1955	13	691	2,347,080	3,299,285	8,569,792
.....1956	13	785	2,740,685	3,454,283	10,552,905
.....1957	12	800	3,118,482	3,643,214	12,198,835
Talc and soapstone.....1953	3	54	132,934	63,315	245,182
.....1954	4	53	134,437	100,754	288,294
.....1955	4	50	130,221	101,836	290,831
.....1956	4	67	169,120	113,533	315,802
.....1957	4	77	222,287	142,725	369,999
Miscellaneous non-metallics ⁴ 1953	40	1,405	4,168,645	2,481,805	7,505,860
.....1954	47	1,343	4,839,822	2,705,080	7,716,472
.....1955	73	1,650	5,340,186	3,426,041	7,561,714
.....1956	60	1,773	6,069,934	4,121,524	11,692,288
.....1957	50	1,571	5,673,243	3,554,550	10,723,739
Fuels.....1953	11,435	25,766	83,854,023	23,951,642	290,107,746
.....1954	12,357	24,807	78,271,162	22,931,832	329,809,609
.....1955	14,329	23,458	76,343,655	24,921,036	388,519,230
.....1956	16,811	24,187	85,820,926	30,211,422	482,704,117
.....1957	19,055	21,985	81,953,883	32,974,465	522,571,134

For footnotes, see end of table, p. 545.

31.—Summary Statistics of the Principal Mineral Industries, 1953-57—concluded

Industry and Year	Plants or Mines	Em- ployees	Salaries and Wages	Purchased Fuel, Electricity and Process Supplies ¹	Net Value of Shipments ²
	No.	No.	\$	\$	\$
Fuels—concluded					
Coal.....1953	241	19,847	59,350,290	18,146,436	84,575,439
1954	223	18,050	53,650,045	15,631,307	80,968,959
1955	203	16,590	50,325,387	15,368,193	78,211,278
1956	185	16,095	49,468,237	16,317,316	79,032,447
1957	170	14,569	47,222,273	16,312,034	73,908,636
Natural gas.....1953	3,688	2,769	8,073,532	337,277	6,519,224
1954	3,572	2,887	8,864,662	356,404	7,930,405
1955	3,659	2,849	9,070,036	478,580	8,715,539
1956	3,484	2,947	10,617,695	844,887	8,429,004
1957	3,939	1,951	7,033,566	533,602	9,929,154
Petroleum.....1953	7,506	4,150	16,430,201	5,467,929	199,013,083
1954	8,562	3,870	15,756,455	6,944,121	240,910,245
1955	10,467	4,019	16,948,262	9,074,263	301,592,413
1956	13,142	5,145	25,734,994	13,049,219	395,242,666
1957	14,946	5,465	27,698,044	16,128,829	438,733,344
Structural Materials					
.....1953	8,289	15,347	46,378,901	40,265,942	151,047,272
1954	8,625	16,099	51,363,733	41,692,754	167,197,627
1955	8,725	16,486	54,423,217	44,263,904	188,990,576
1956	9,008	17,473	60,012,212	51,230,249	212,390,178
1957	9,339	19,002	65,978,769	59,882,407	241,784,590
Clay products.....1953	125	3,719	10,833,628	5,642,817	24,134,914
1954	125	3,929	12,112,490	6,023,812	26,336,286
1955	118	4,118	12,850,485	6,174,226	30,178,957
1956	119	4,418	14,793,971	7,335,562	30,449,418
1957	111	4,067	13,963,399	6,979,907	28,942,251
Cement.....1953	11	2,391	8,873,694	21,799,652	40,428,272
1954	12	2,575	9,802,707	22,243,820	39,953,127
1955	12	2,801	10,962,895	24,475,775	44,336,891
1956	17	3,188	12,856,855	28,547,632	50,058,214
1957	17	3,465	15,317,888	35,886,600	61,192,441
Lime.....1953	42	1,057	3,278,434	4,608,887	10,600,220
1954	40	1,012	3,349,881	4,678,017	10,810,714
1955	39	1,099	3,776,481	4,783,461	11,793,430
1956	38	1,100	3,853,007	4,906,353	11,555,978
1957	39	1,152	3,982,533	5,432,083	12,096,699
Sand and gravel.....1953	7,623	4,377	13,253,953	3,526,252	49,959,149
1954	7,891	4,437	13,717,851	3,084,875	55,902,796
1955	7,999	4,360	14,442,413	3,358,947	64,416,106
1956	8,311	4,627	14,994,414	4,032,039	77,925,313
1957	8,589	5,987	18,162,499	4,432,490	87,506,864
Stone.....1953	488	3,803	10,139,192	4,688,334	25,924,717
1954	557	4,146	12,380,804	5,662,230	34,194,904
1955	557	4,108	12,390,943	5,471,495	38,265,192
1956	523	4,142	13,513,965	6,408,663	42,401,255
1957	583	4,331	14,552,950	7,161,327	52,046,335
Grand Totals					
.....1953	20,508	130,038	453,065,518	800,771,539	1,181,547,245
1954	21,904	129,445	465,305,873	822,402,864	1,339,898,736
1955	24,115	133,636	502,595,701	1,063,227,519	1,600,314,160
1956	26,937	142,560	566,047,654	1,231,658,463	1,837,736,871
1957	29,453	145,464	609,601,823	1,214,093,320	1,873,614,407

¹ Includes freight and smelter charges and cost of ores treated.
process supplies, fuel, electricity, freight and smelter charges.
natural abrasives.

² Gross value of shipments less cost of
³ Available from 1955 only.

⁴ Includes

Section 6.—World Production of Certain Metallic Minerals and Fuels

Table 32 shows the production of certain metallic minerals and fuels in the different countries of the world for the year 1956. These figures are taken from the *United Nations Statistical Yearbook 1957* which presents production figures for 1937-56 for a much more extensive list of mining and quarrying industries. The 1956 figures are provisional and have been converted from kilograms to ounces troy for gold, from metric tons to ounces troy for silver, and from metric tons to short tons for the other metals and fuels shown.

32.—World Production of Certain Metallic Minerals and Fuels, 1956

NOTE.—Where dashes occur throughout this table they indicate that no figures were given in the *United Nations Statistical Yearbook* either because there was no production or because the quantity was not available.

Country	Gold	Silver	Copper	Iron	Lead	Zinc	Coal	Crude Petroleum
	'000 oz. t.	'000 oz. t.	'000 tons	'000 tons	'000 tons	'000 tons	'000 tons	'000 tons
Algeria.....	—	—	—	1,480.4	11.5	33.6	327.4	36.8
Angola.....	—	—	4.5	—	—	—	—	—
Argentina.....	11.4	1,607.5	—	—	32.2	23.9	167.7	4,891.0
Australia.....	1,031.0	14,586.8	59.0	2,848.4	333.7	311.4	21,608.6	—
Austria.....	—	—	2.8	1,123.3	6.0	7.8	183.0	3,777.6
Bahrain.....	—	—	—	—	—	—	—	1,660.1
Bechuanaland.....	0.6	—	—	—	—	—	—	—
Belgian Congo.....	373.9 ¹	3,697.3	275.6 ²	—	—	129.5	463.0	—
Belgium.....	—	—	—	55.1	—	—	32,578.8	—
Bolivia.....	24.1 ³	7,359.3 ²	5.1 ³	—	23.8 ²	18.8 ³	—	459.3
Brazil.....	—	—	—	2,285.1	—	—	2,461.5	577.5
British Guiana.....	15.0	—	—	—	—	—	—	—
British West Africa (Nigeria, Ghana and Sierra Leone).....	—	32.2 ³	—	—	—	—	—	—
Brunei.....	—	—	—	—	—	—	—	6,190.6
Bulgaria.....	—	—	6.2	115.7	67.2	53.2	407.9	—
Burma.....	—	1,366.4	0.4	4.4	31.9	16.1	—	254.6
Cameroons, French.....	0.4	—	—	—	—	—	—	—
Canada.....	4,678.4	28,794.2	353.3	12,390.0 ⁴	186.6	423.6	12,574.1	25,409.4
Chile.....	94.5	1,822.9	539.8	1,833.1	—	—	2,511.1	508.9
China (Taiwan only).....	33.1	—	—	—	—	—	2,787.7	2.9
Colombia.....	433.3	109.3	—	—	—	—	2,094.4	6,728.5 ⁵
Cuba.....	—	—	16.1	99.2	—	—	—	41.9 ⁶
Cyprus.....	—	—	35.7	—	—	—	—	—
Czechoslovakia.....	—	—	—	841.1	—	—	25,806.2	—
Ecuador.....	15.1	28.9	—	—	—	—	—	497.1
Egypt.....	7.7	—	—	—	—	—	—	1,899.3 ⁵
El Salvador.....	3.0	160.8	—	—	—	—	—	—
Fiji.....	66.7	—	—	—	—	—	—	—
Finland.....	18.2	318.3	25.1	—	2.1	52.7	—	—
France.....	0.5	1,241.0	—	18,871.6	9.3	12.8	60,769.3	1,392.9
French Equatorial Africa.....	40.7	—	—	—	3.3	—	—	—
French Guiana.....	5.2	—	—	—	—	—	—	—
French West Africa.....	0.5	—	—	469.6	—	—	—	—
Ghana.....	638.0	7	—	—	—	—	—	—
Germany—	—	—	—	—	—	—	—	—
East Germany.....	—	—	—	500.4	—	—	3,023.6	—
West Germany.....	—	—	1.1	4,367.4	72.1	101.9	149,491.0	3,864.7
Saar.....	—	—	—	—	—	—	18,838.5	—
Greece.....	—	80.4	—	218.3	9.9	—	—	—
Honduras.....	1.6 ³	3.2 ³	—	—	2.3	—	—	—
Hong Kong.....	—	—	—	61.7	—	—	—	—
Hungary.....	—	—	—	108.0	—	—	2,613.6	1,325.0
India.....	209.3	106.1	10.8	3,235.3	3.2	3.9	44,166.3	—
Indonesia.....	—	—	—	—	—	—	912.7	14,032.4
Iran.....	—	—	5.6	—	34.8	—	363.8	29,190.3
Iraq.....	—	—	—	—	—	—	—	34,526.6
Ireland.....	—	—	—	—	3.0	—	238.1	—
Italy.....	5.3	1,035.3	0.4	919.3	55.7	131.7	1,188.3	625.3
Japan.....	295.3	6,131.1	86.5	1,211.4	32.5	135.6	51,318.1	380.3
Kenya.....	13.9	—	—	—	—	—	—	—

For footnotes, see end of table.

32.—World Production of Certain Metallic Minerals and Fuels, 1956—concluded

Country	Gold	Silver	Copper	Iron	Lead	Zinc	Coal	Crude Petroleum
	'000 oz. t.	'000 oz. t.	'000 tons	'000 tons	'000 tons	'000 tons	'000 tons	'000 tons
Korea (South).....	49.9	196.1	1.0	34.2	1.5	0.4	2,000.7	—
Kuwait.....	—	—	—	—	—	—	—	60,607.3
Kuwait (Neutral Zone)....	—	—	—	—	—	—	—	1,843.1
Liberia.....	—	—	—	1,586.2	—	—	—	—
Luxembourg.....	—	—	—	2,511.1	—	—	—	—
Madagascar.....	1.0	—	—	—	—	—	—	—
Malaya, Federation of.....	18.2	—	—	1,534.4	—	—	—	—
Mexico.....	350.2	43,082.0	60.5	539.0	220.0	274.4	1,552.1	14,299.2
Morocco (former French Zone).....	—	700.9	—	240.3	95.5	43.5	531.3	107.5
Mozambique.....	1.3	—	—	—	—	—	240.6	—
Netherlands.....	—	—	—	—	—	—	13,047.0	1,209.2
New Guinea (Netherlands)	79.7	41.8	—	—	—	—	—	—
New Guinea West.....	—	—	—	—	—	—	—	400.1
New Zealand.....	26.1	—	—	1.3	—	—	895.1	1.1
Nicaragua.....	216.3 ³	—	—	—	—	—	—	—
Nigeria.....	0.5	7	—	—	—	—	881.8	—
Northern Rhodesia.....	3.3	614.1	429.5 ²	—	17.0 ²	32.4 ²	—	—
Norway.....	—	51.4	18.7	1,095.7	0.9	7.2	430.0	—
Pakistan.....	—	—	—	—	—	—	723.1 ³	312.0
Papua.....	0.4	—	—	—	—	—	—	—
Peru.....	156.8	22,505.5	48.8	1,720.7	133.5	176.6	142.2	2,706.2
Philippines.....	406.2	450.1	29.8	873.0	2.4	—	167.2	—
Poland.....	—	—	8.0	739.7 ³	36.4	166.4	104,883.8	202.8
Portugal.....	22.1	—	—	129.0	—	—	456.4	—
Portuguese India.....	—	—	—	1,250.0 ³	—	—	—	—
Qatar.....	—	—	—	—	—	—	—	6,478.3
Romania.....	—	—	—	343.9	—	—	198.4	12,037.2
Sarawak.....	0.6	—	—	—	—	—	—	79.4
Saudi Arabia.....	—	7	—	—	—	—	—	53,132.5
Sierra Leone.....	—	—	—	878.5	—	—	—	—
Southern Rhodesia.....	536.4	77.2	70.3	—	—	—	3,916.5	—
South West Africa.....	—	—	29.9	—	86.1	29.3	—	—
Spain.....	—	1,427.5	—	2,279.6	67.5	96.1	14,165.8	—
Sweden.....	—	—	18.4	12,458.3	36.0	72.8	324.1	—
Switzerland.....	—	—	—	72.8	—	—	—	—
Tanganyika.....	59.3 ³	—	—	—	7.2 ³	—	—	—
Thailand.....	—	—	—	—	4.4	—	—	—
Trinidad.....	—	—	—	—	—	—	—	4,562.5
Tunisia.....	—	86.8	—	694.5	25.8	5.2	—	—
Turkey.....	—	—	27.3 ²	662.5	—	—	4,098.4	336.9
Uganda.....	0.3 ³	—	—	—	—	—	—	—
Union of South Africa.....	15,896.7	1,581.8	49.4	1,444.0	0.9	—	37,380.5	—
Union of Soviet Socialist Republics.....	—	—	—	49,824.5	—	—	334,771.9	92,373.7
United Kingdom.....	—	—	—	5,024.3	7.2	1.5	248,646.1 ¹⁰	160.9
United States of America..	1,865.2 ¹¹	38,738.4 ¹¹	1,106.2	56,408.4 ¹²	352.7	542.3	525,628.2	389,907.2
Venezuela.....	69.7	—	—	7,770.2	—	—	34.0	144,977.0
Vietnam (South only).....	—	—	—	—	—	—	2.2	—
Yugoslavia.....	47.8	2,758.5	35.1	912.7	96.2	63.4	1,358.0	323.7

¹ Including Ruanda-Urundi. ² Smelter production. ³ Exports. ⁴ Shipments. ⁵ Including natural gasoline. ⁶ January-October. ⁷ Included with British West Africa. ⁸ Including lignite. ⁹ Including content of iron pyrites. ¹⁰ Great Britain only. Excluding coal produced at quarries but including open-cast coal. ¹¹ Including Alaska. ¹² Excluding manganiferous iron ores.

CHAPTER XII.—POWER GENERATION AND UTILIZATION

CONSPECTUS

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NOTE.—The interpretation of the symbols used in the tables throughout the Year Book will be found facing p. 1 of this volume.

Section 1.—Water Power Resources—Available and Developed*

Canada, a land of many lakes and rivers, has been endowed by nature with great water power resources well distributed across the country. Adequate precipitation and favourable topography result in numerous fast flowing rivers which offer excellent opportunities for the development of hydraulic power; with the exception of the prairies of the mid-west, water power resources of importance are found in virtually every part of the country. In British Columbia, where precipitation is high, the rivers flowing down the Pacific slope of the Rocky Mountains present fine power sites. Extensive water power resources are available in the Yukon Territory, principally on the Yukon River and its tributaries. Alberta, although a prairie province, also has mountain streams from the Rockies and great reserves of undeveloped power on its large northern rivers. The Canadian Shield of Precambrian rock, which forms an arc around Hudson Bay, covers a portion of the Northwest Territories and northern Saskatchewan as well as large parts of Manitoba, Ontario, Quebec and Labrador; it is a rough, forest-covered, well watered area characterized by innumerable lakes and by rivers with many falls and rapids. The Great Lakes-St. Lawrence River system and its tributaries provide the extensive power resources of Ontario and Quebec upon which their status as the principal manufacturing provinces of Canada is dependent and which compensate in large degree for the lack of indigenous coal. In New Brunswick and Nova Scotia and on the Island of Newfoundland, precipitation is moderately heavy and the rivers, though not large, afford numerous possibilities for power developments of moderate size. In Labrador the potential resources of the Hamilton River are outstanding.

An accurate comparison of Canada's water power resources and their development with those of other countries is not possible because world statistics are incomplete and are tabulated on differing bases. However, from information available it appears that Canada ranks second among the countries of the world in total installed capacity, being exceeded only by the United States; in installation per thousand population, Canada is exceeded only by Norway. Canada is in approximately fifth place in potential power resources but, on the whole, those resources are more readily available to prospective markets than are the water power resources of other countries that outrank Canada, an exception being the United States. In particular might be mentioned the enormous potential resources of the great river systems of Africa and Asia.

* Revised by the Water Resources Branch, Department of Northern Affairs and National Resources, Ottawa.

Table 1 gives a summary of the water power resources of Canada and their development as at the end of 1958.

1.—Available and Developed Water Power, by Province, as at Dec. 31, 1958

Province or Territory	Available 24-Hour Power at 80 p.c. Efficiency		Turbine Installation ¹
	At Ordinary Minimum Flow	At Ordinary Six-Months Flow	
	h.p.	h.p.	h.p.
Newfoundland.....	1,608,000	3,264,000	368,935
Prince Edward Island.....	500	3,000	1,660
Nova Scotia.....	30,500	177,000	183,168
New Brunswick.....	123,000	334,000	254,375
Quebec.....	10,896,000	20,445,000	9,857,607
Ontario.....	5,496,000	7,701,000	7,150,851
Manitoba.....	3,492,000	5,798,000	778,900
Saskatchewan.....	550,000	1,120,000	109,835
Alberta.....	911,000	2,453,000	312,595
British Columbia.....	18,200,000 ²	19,400,000 ²	3,310,460
Yukon Territory.....	4,678,000 ²	4,700,000 ²	38,190
Northwest Territories.....	374,000	808,000	13,050
Canada.....	46,359,000²	66,203,000²	22,379,626

¹ Includes water wheels and hydraulic turbines installed.
stream flow regulation based on known storage potentials.

² This figure reflects the effect of possible

The figures given in the first and second columns of Table 1 represent 24-hour power and are based upon rapids, falls and power sites of which the actual drop, or the head of possible concentration, has been measured or at least carefully estimated. Tabulations of potential power in Canada are not complete as many unrecorded rapids and falls of undetermined power capacity exist on rivers and streams throughout the country, particularly in the less explored northern districts. Apart from areas where definite studies have been carried out and the results recorded, no consideration has been given to the power concentrations that are feasible on rivers and streams of gradual gradient where economic heads possibly may be created by the construction of dams. Furthermore, the estimates of power available in different provinces do not include the power potential of major river diversions which have been investigated but not developed. Thus the figures in Table 1 of available power under the two conditions of stream flow represent only the minimum water power possibilities of Canada.

The figures in the third column of Table 1 give the total capacity of the water wheels actually installed and should not be placed in direct comparison with those in the first and second columns to deduce the percentage developed of the available water power resources. While the maximum economic turbine installation at any site can be determined only by careful consideration of all conditions and circumstances pertinent to its individual development, it is usual practice to install turbines that have a total capacity in excess of the power equivalent of the six-months flow at the site.

The consistent growth of hydraulic turbine capacity is shown in Table 2. The average annual increase from 1900 to 1905 of 56,000 h.p., was stepped up sharply in subsequent years because of improvements in the transmission of electricity and the building of large generating stations. During the period 1906-22 development proceeded at the fairly uniform rate of 150,000 h.p. per annum but the rate of installation increased sharply in 1923 and continued at about 377,000 h.p. each year from 1923 to 1935. As an aftermath to the economic depression, the rate of installation was low during the years 1936-39 but increased to a high average of 481,000 h.p. per annum during the period 1940-43 to satisfy war requirements. Few developments were undertaken in the later war years or in the immediate postwar period so that only a small amount of new capacity came into

operation in the 1944-47 period. However, the effects of the later postwar program of construction are apparent in the large growth during the years 1948-58 when the average rate was about 1,000,000 h.p. per annum. A continuation of this rate of growth is indicated for some years.

2.—Hydraulic Turbine Horsepower Installed, by Province, as at Dec. 31, Decennially 1900-50 and Annually 1951-58

NOTE.—Figures for the years 1900-30 are given in the 1939 Year Book, p. 362; for 1931-39 in the 1946 edition, p. 362; and for 1940-49 in the 1954 edition, pp. 556-557.

Year	New-foundland	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario
	h.p.	h.p.	h.p.	h.p.	h.p.	h.p.
1900.....	—	1,521	19,810	4,601	82,884	53,876
1910.....	—	1,760	31,476	11,197	334,763	490,821
1920.....	—	2,233	37,623	21,976	955,090	1,057,422
1930.....	—	2,439	114,224	133,681	2,718,130	2,088,055
1940.....	—	2,617	139,217	133,347	4,320,943	2,597,595
1950.....	262,810	2,299	150,960	133,111	6,372,812	3,513,840
1951.....	279,160	2,299	150,960	132,911	6,755,351	3,718,505
1952.....	292,660	2,299	162,455	135,511	7,263,621	3,948,466
1953.....	311,150	1,900	162,433	164,130	7,719,122	4,006,686
1954.....	323,150	1,882	170,908	164,130	7,773,822	4,845,486
1955.....	329,150	1,882	177,018	164,130	7,975,657	5,367,866
1956.....	336,750	1,882	179,718	164,130	8,489,957	5,443,766
1957.....	337,970	1,882	181,958	209,130	8,979,857	5,824,766
1958.....	368,935	1,660	183,168	254,375	9,857,607	7,150,851
	Manitoba	Saskatchewan	Alberta	British Columbia	Yukon and N.W.T.	Canada
	h.p.	h.p.	h.p.	h.p.	h.p.	h.p.
1900.....	1,000	—	280	9,366	5	173,323
1910.....	38,800	30	655	64,474	3,195	977,171
1920.....	85,325	35	33,122	309,534	13,199	2,515,559
1930.....	311,925	42,035	70,532	630,792	13,199	6,125,012
1940.....	420,925	90,835	71,997	788,763	18,199	8,584,438
1950.....	595,200	111,835	107,225	1,284,208	28,450	12,562,750
1951.....	596,400	111,835	207,825	1,358,808	28,450	13,342,504
1952.....	716,900	111,835	207,825	1,432,858	31,450	14,305,880
1953.....	716,900	109,835	207,960	1,496,518	32,440	14,929,074
1954.....	756,900	109,835	258,710	2,246,868	32,440	16,684,131
1955.....	796,900	109,835	284,010	2,271,460	33,240	17,511,148
1956.....	796,900	109,835	285,010	2,514,960	33,240	18,356,148
1957.....	778,900	109,835	308,010	3,122,460	36,240	19,891,008
1958.....	778,900	109,835	312,595	3,310,460	51,240	22,379,626

The availability of large amounts of hydro-electric energy has greatly fostered the economical utilization of the natural products from land, forest and mine. Low-cost power is fundamental in meeting the enormous requirements of Canada's great pulp and paper and smelting and refining industries. Indeed, Canada's outstanding industrial growth in the postwar period has been made in conjunction with accelerated development of water power resources. From hydro-electric plants ranging in capacity from a few hundred to more than 1,000,000 h.p., networks of transmission line carry power to most urban centres and to an increasing number of rural districts. This wide distribution of power has facilitated the decentralization of industry, enabling manufacturing processes to be carried on in many of the smaller centres of population. Low-cost domestic electrical service also contributes in no small measure to the high standard of living in Canada.

In 1957, hydro-electric installations produced a total of about 83,000,000,000 kwh. of electric energy. Assuming a working year of 275 eight-hour days and that the working capacity of a manual worker equals 1/10 h.p., the total energy produced from water power in 1957 represents the equivalent of the output of about 503,000,000 labourers.

Table 3 indicates the respective amounts of water power that have been developed by utilities and by industrial establishments. For this tabulation, utilities are defined as companies, municipalities or individuals who sell most of the power they develop. In some instances they include also certain subsidiary companies whose main purpose is to develop and sell power to a parent company for industrial purposes. Installations of utilities totalling 17,364,220 h.p. represent 78 p.c. of Canada's total developed water power as at Dec. 31, 1958.

Industrial establishments are defined as companies or individuals developing power mainly for their own use. Installations of industrial establishments totalled 5,015,406 h.p. as at Dec. 31, 1958. In addition, industry purchased a considerable amount of electricity from utilities.

The figure of total hydraulic installation in Canada (22,379,626 h.p.) is the cumulative total of all existing installations of water wheels and hydraulic turbines irrespective of whether or not the equipment has been in use during the year. It has been adjusted to Dec. 31, 1958, by the inclusion of new installations completed during the year and by deletions of old units that were dismantled.

3.—Developed Water Power, by Province, as at Dec. 31, 1958

Province or Territory	Turbine Installation		Total ³
	Utilities ¹	Industries ²	
	h.p.	h.p.	h.p.
Newfoundland.....	267,815	101,120	368,935
Prince Edward Island.....	240	1,420	1,660
Nova Scotia.....	168,375	14,793	183,168
New Brunswick.....	227,445	26,930	254,375
Quebec.....	7,302,878	2,554,729	9,857,607
Ontario.....	6,672,010	478,841	7,150,851
Manitoba.....	763,000	15,900	778,900
Saskatchewan.....	106,500	3,335	109,835
Alberta.....	311,530	1,065	312,595
British Columbia.....	1,512,887	1,797,573	3,310,460
Yukon and Northwest Territories.....	31,540	19,700	51,240
Canada.....	17,364,220	5,015,406	22,379,626
Percentage of total installation.....	78	22	100

¹ Includes only hydro-electric stations that develop power mainly for sale.
developed by industries mainly for their own use.

² Includes only water power
³ Includes all water wheels and hydraulic turbines installed.

Section 2.—Thermal Power*

Thermally produced electric power capacity has expanded at a phenomenal rate since World War II. It has been estimated that the ratio of generating capacity in central thermal and hydro stations has sharply narrowed from 1:15 to 1:7 in the ten-year interval prior and subsequent to 1945. In 1958, this ratio approached 1:5 with the probability that by 1980 it would be as little as 1:2.

The accelerating trend toward thermal power developed significantly within the years 1954-58, particularly in the Atlantic and Prairie Provinces, Ontario and British Columbia. While Quebec and the Northwest Territories depend less on thermally generated power than the remainder of Canada, these regions too will eventually have need for such power.

* Prepared by the Fuels Division, Department of Mines and Technical Surveys, Ottawa.

This trend has been brought about for a number of reasons, mainly of economic expediency. Canada's rapidly expanding economy demands ever-increasing supplies of electric energy to serve a growing population and industrial complex. Supplies of hydraulic energy within economic transmission distance of populated areas are becoming fewer and much more costly to develop. Expenditure of large amounts of capital required to develop single blocks of hydro power at distant points cannot be justified unless there is immediate use for all of the power generated at a load factor which warrants its transmission over long distances. Moreover, the load on the established electrical systems in many areas now needs firming with extra supplies of reliable thermal energy not heretofore required, and this can be provided at lower capital cost per unit of installed capacity than by hydro facilities which may be affected by periodic water shortages.

The trend is well exemplified by reference to the vast complex of The Hydro-Electric Power Commission of Ontario, one of the world's largest single power operations. At the end of 1958 this system had generating resources of 4,956,270 kw. of which only 571,965 kw. were installed in thermal stations. Additional steam capacity under construction amounted to 1,500,000 kw. with forecast of about 3,000,000 kw. to meet requirements by 1970. The Commission's long-term forecast estimates that—if nuclear electricity is not available at competitive cost by 1980—26,500,000 tons of coal annually, at a cost of some \$300,000,000, will be required to fuel its steam capacity which by 1980 may amount to as much as 10,000,000 kw. or twice the available generating facilities available from hydraulic sources.

The most recent survey* shows that from 1950 to 1957 the net generating capability of thermal stations had increased by 195 p.c., as compared with 65 p.c. for hydro stations, with a forecast that by the end of 1961 thermal station net generating capability will have advanced over 1950 by 529 p.c. as against 116 p.c. for hydro stations.

Table 4 gives, by province, the estimated amount of increase in net generating capability and the percentage annual increment in thermal and hydro facilities for the period 1950-61. These data clearly indicate the growing importance of thermal generating capacity in comparison with hydro, and that, proportionately, the rate of growth is higher than for hydro in all of the provinces.

* DBS Report, *Fourth Annual Electric Power Survey of Capability and Load—March 1958.*

4.—Estimated Increase in Net Generating Capability, by Province, for the Period 1950-61

Province or Territory	Increase in Thermal Facilities		Increase in Hydro Facilities	
	Amount	Annual Increment ¹	Amount	Annual Increment ¹
	'000 kw.	p.c.	'000 kw.	p.c.
Newfoundland.....	34	13.0	85	3.6
Prince Edward Island.....	31	13.7	—	—
Nova Scotia.....	274	13.0	32	2.3
New Brunswick.....	191	10.1	94	6.7
Quebec.....	44	9.4	4,522	6.7
Ontario.....	1,761	22.9	2,986	7.7
Manitoba.....	221	7.9	143	2.7
Saskatchewan.....	560	16.3	2	0.9
Alberta.....	470	16.4	235	13.0
British Columbia.....	592	19.6	1,831	11.0
Yukon and Northwest Territories.....	3	—	20	6.3
Canada.....	4,171	18.2	9,950	7.3

¹ Compounded. A sustained annual percentage increase of 7.5 roughly indicates that the generating capability will double in ten years.

Table 5 gives the amount of installed capacity and electricity generated in thermal stations in 1957 with percentage of total in each case. Provisional figures for the electricity generated in 1958 are included.

5.—Installed Thermal Generating Capacity and Electricity Generated, by Province, 1957 and 1958

Province or Territory	Capacity in Thermal Stations		Generation by Thermal Stations			
	1957		1957		1958 ^p	
	Amount	P.C. of Total ¹	Amount	P.C. of Total ¹	Amount	P.C. of Total ¹
	'000 kw.		'000,000 kwh.		'000,000 kwh.	
Newfoundland.....	29	12	51	4	40	3
Prince Edward Island.....	25	99+	57	99+	63	100—
Nova Scotia.....	298	70	1,007	66	911	58
New Brunswick.....	187	47	698	50	478	31
Quebec.....	106	2	226	1—	189	—
Ontario.....	909	17	2,153	7	1,198	4
Manitoba.....	92	14	27	1—	132	4
Saskatchewan.....	375	81	1,200	68	1,333	70
Alberta.....	383	61	1,625	67	1,616	62
British Columbia.....	243	10	608	6	534	5
Yukon and Northwest Territories.....	3	9	6	4	3	2
Canada.....	2,651	15	7,658	8	6,496	7

¹ Combined thermal and hydro generating capacity.

Table 6 gives a regional listing of the number of thermal stations and generating units by type of plant, basic fuel used, and total generating capacity.

6.—Capacity of Thermal Generating Equipment, by Type of Plant, as at Dec. 31, 1958

Province	Type of Plant and Basic Fuel Used	Stations	Generating Units	Generating Capacity
		No.	No.	kw.
Nfld.....	Steam turbine (oil).....	2	3	20,000
	Internal combustion engine (oil).....	4	8	4,350
P.E.I.....	Steam turbine (oil).....	1	6	22,500
	Internal combustion engine (oil).....	2	10	2,986
N.S.....	Steam turbine (coal).....	9	29	292,805
	Internal combustion engine (oil).....	4	12	3,250
N.B.....	Steam turbine (coal and oil).....	10	36	166,750
	Internal combustion engine (oil).....	4	11	7,666
Que.....	Steam turbine (coal and oil).....	15	34	52,760
	Internal combustion engine (oil).....	11	26	8,354
Ont.....	Steam turbine (coal and oil).....	29	52	744,935
	Steam turbine—internal combustion engine (coal and oil).....	3	13	25,868
	Internal combustion engine (oil).....	10	22	8,056
Man.....	Steam turbine (coal and oil).....	4	12	181,000
	Internal combustion engine (oil).....	3	7	3,753
Sask.....	Steam turbine (coal, oil and natural gas).....	8	29	386,700
	Internal combustion engine (oil and natural gas).....	11	49	29,141
	Internal combustion engine (natural gas).....	1	5	29,000

**6.—Capacity of Thermal Generating Equipment, by Type of Plant,
as at Dec. 31, 1958—concluded**

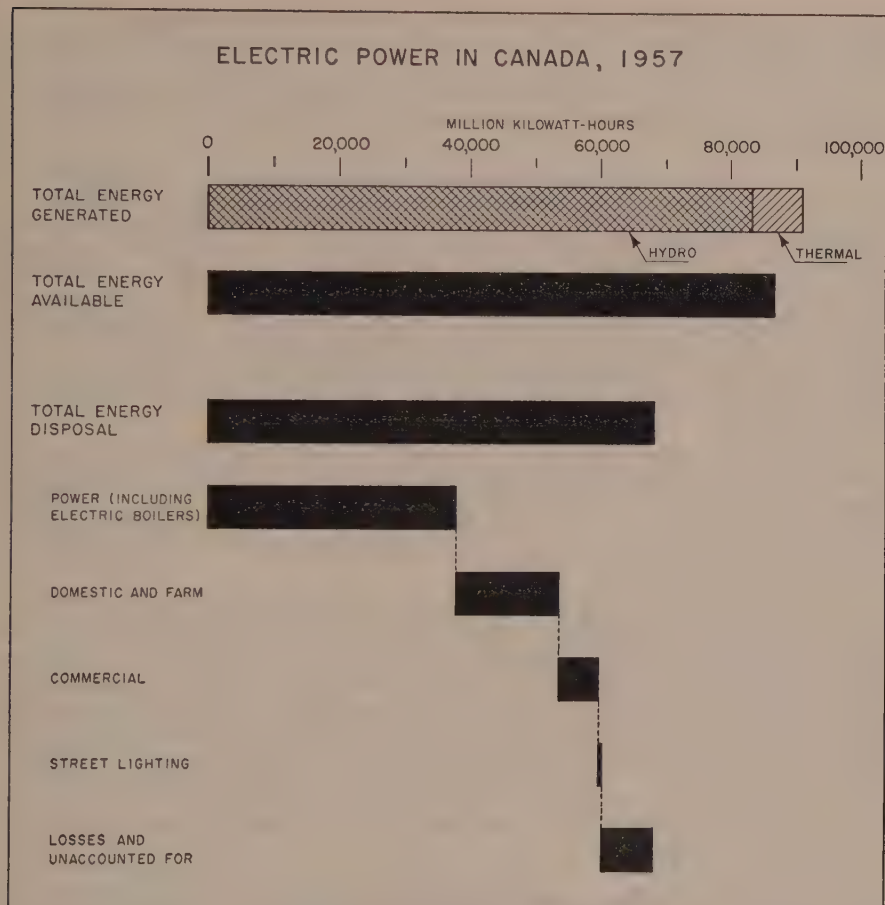
Province or Territory	Type of Plant and Basic Fuel Used	Stations	Gener- ating Units	Gener- ating Capacity
		No.	No.	kw.
Alta.	Steam turbine (coal, oil and natural gas)	11	23	257,600
	Steam turbine (natural gas and oil)	3	15	191,375
	Internal combustion engine (oil and natural gas)	15	49	18,513
	Gas turbine (natural gas)	1	1	10,000
B.C.	Steam turbine (oil and wood waste)	18	48	112,610
	Steam turbine—internal combustion engine (oil and wood waste)	1	2	1,800
	Internal combustion engine (oil and natural gas)	41	161	82,892
	Gas turbine (oil)	1	4	87,040
Yukon and N.W.T.	Steam turbine—internal combustion engine (oil)	1	4	1,500
	Internal combustion engine (oil)	6	19	2,841
Canada.	Steam turbine	107	272	2,237,660
	Steam turbine—internal combustion engine	5	19	29,168
	Steam turbine—gas turbine	3	15	191,375
	Internal combustion engine	111	374	171,802
	Internal combustion engine—gas turbine	1	5	29,000
	Gas turbine	2	5	97,040
	Grand Totals	229	690	2,756,045

Heretofore, a fair proportion of the thermal generating capacity was operated at extremely low rates of load factor, particularly in small stations serving isolated communities, and as standby to hydro facilities. However, progressive increase in load and need for firmer output is making it economical to install larger and more efficient thermal units essentially in the larger stations serving widespread system demands. Here the capacity is mainly provided by steam-motivated turbo-alternators, the largest of which are capable of generating a kilowatt-hour from a pound of coal. Still larger units, shortly to be installed, will be capable of generating a kilowatt-hour with as little as two-thirds of a pound of coal. Since 1955, in Western Canada ten gas-turbine-driven generating sets with capacities of from 7,500 to 30,000 kw. have been installed, with several more in the course of installation. These sets have the advantage of low first cost and extreme flexibility, and are well suited for peaking operations in an integrated system. In addition, a number of gas-diesel-driven generator sets with capacities to 3,000 kw. have replaced smaller oil diesel units in several western stations, more particularly in British Columbia.

In 1957, thermal facilities provided 8 p.c. of the electricity generated in Canada and hydro facilities 92 p.c. Of the thermal generation, as much as 94 p.c. was provided by steam-driven equipment and 6 p.c. by diesel-engine and gas-turbine equipment.

Section 3.—Water and Thermal Power Developments in the Provinces and Territories, 1957 and 1958

A total of 1,546,560 h.p. of new hydro-electric capacity was placed in service in 1957 and 2,500,000 h.p. was added in 1958. The latter total is the highest increase ever recorded in one year. Construction of hydro-electric plants continued to accelerate with about 4,300,000 h.p. of new capacity expected to come into operation during the next few years. Construction was active also in the field of power distribution and in the building of thermal-electric plants. Progress in hydro-electric and thermal-electric construction is outlined below by provinces.



Atlantic Provinces.—In Newfoundland during 1957 the Maritime Mining Corporation completed the installation of a 460-h.p. hydro-electric plant on Venams Brook at Green Bay and a 760-h.p. plant at Snooks Arm, Green Bay. The following year the Bowater Power Company completed a development of 12,000 h.p. in two units on the Corner Brook River at Corner Brook and had in active prospect the development of two sites in the Grand Lake Watershed—one on Hinds Brook to comprise 50,000 h.p. in two units and the other on Little Grand Lake to consist of one 14,000-h.p. unit. The Newfoundland Light and Power Company Limited late in 1958 completed a new hydro-electric plant, a 17,000-h.p. development in two units on Rattling Brook near Norris Arm. The Union Electric Light and Power Company Limited doubled the capacity of its Trinity River plant by the addition of a 2,000-h.p. unit in 1958 and constructed 33 miles of 48-kv. transmission line in the Trinity Bay area. The United Towns Electric Company in 1958 added a 3,600-h.p. unit to its plant at Lookout Brook, increasing the total installed capacity at this site to 7,300 h.p. in three units. The Company also started construction on a 1,200-h.p. plant in one unit at Pitmans Pond. The Iron Ore Company of Canada expects to add a new 19,000-h.p. unit in 1960 at its Menihek Rapids Development on the Ashuanipi River in Labrador.

In the thermal-electric construction field, the Newfoundland Light and Power Company added a 20,000-kw. unit to its steam plant at St. John's, to augment the existing 10,000-kw. unit.

In Prince Edward Island, the Maritime Electric Company Limited in 1958 began the installation of a 10,000-kw. unit for operation late in 1961 at its steam plant at Charlottetown.

In Nova Scotia in 1957 the Nova Scotia Power Commission completed a 5,300-h.p. unit on the Bear River at Bear River and in 1958 demolished two small plants on the Sissiboo River and began the construction of a 12,000-h.p. unit at the original Weymouth Falls site and a 8,000-h.p. unit near the Sissiboo Falls site. During 1957-58, extensions to the Commission's transmission system included 79 miles of 69-kv. line and 40 miles of 23-kv. line. Three substations of 15,000, 3,750 and 3,000 kva. respectively were placed in service during 1957 by the Commission and two others, each of 5,000 kva., in 1958. The Nova Scotia Light and Power Company late in 1958 completed the replacement of two 1,150-h.p. units by a single 5,000-h.p. unit at its Hemlock Falls installation on the Avon River at Windsor Forks. In active prospect is a 6,500-h.p. development on the Nictaux River at Alpena.

The Nova Scotia Light and Power Company increased its thermal power capacity at Halifax by the addition of a 50,000-kw. unit in 1957 and a 45,000-kw. unit was under construction. The Nova Scotia Power Commission had under construction a 20,000-kw. unit at its Trenton steam plant, now rated at 40,000 kw., and the Seaboard Power Corporation an additional 16,000-kw. unit in its Sydney steam plant. All three units were scheduled for operation in 1959.

In New Brunswick, the New Brunswick Electric Power Commission brought into operation the first of two 45,000-h.p. units at its Beechwood development on the St. John River in 1957 and the second in 1958. Provision has been made for the later installation of a third similar unit. During 1957-58, the Commission extended its transmission facilities by about 289 miles of 138-kv. line. In 1957 the Commission added two substations, each rated at 50,000 kva., and began the construction of another substation of 10,000 kva. The Commission also had under construction in 1958 at Saint John a new 50,000-kw. steam plant scheduled for completion in 1961; elsewhere a 6,540-kw. unit was placed in operation at the Bathurst steam plant of the Bathurst Power and Paper Company Limited and a new unit of 12,500 kw. was added to the Edmundston steam plant of the Fraser Companies Limited.

Quebec.—The Province of Quebec continued expansion of its hydro-electric power facilities, placing in operation new capacity totalling 473,900 h.p. in 1957 (after allowing for the dismantling of 10,100 h.p.) and 900,000 h.p. in 1958. Of the latter, 450,000 h.p. was installed at the Quebec Hydro-Electric Commission's Bersimis I plant located about 300 miles northeast of Montreal, where the final three units of 150,000 h.p. each were placed in service, raising the total installed capacity of the plant to 1,200,000 h.p. At Bersimis II, 23 miles downstream, good progress was achieved on the construction of five units of 171,000 h.p. each under a head of 375 feet; three units are scheduled for operation late in 1959 and the remaining two units late in 1960. At the Beauharnois development on the St. Lawrence River, about 30 miles from Montreal, the Commission continued construction of the third and final section of the powerhouse which will contain 11 units each of 73,700 h.p. under a head of 80 feet. Initial operation of this section is expected early in 1959 and upon its completion in 1961 the total installed capacity of the over-all development will be 2,234,700 h.p. Work was completed early in 1958 on the construction of a storage dam at the outlet of Lake Ste. Anne on the Toulmoustou River, a tributary of the Manicouagan River, to allow a higher firm output from the plant of the Manicouagan Power Company where additional capacity was installed. Studies and surveys are being carried out by the Commission for developments in the Lachine Rapids section of the St. Lawrence River and in the Manicouagan region on the north shore of the St. Lawrence River.

In 1957, Price Brothers Company Limited completed the construction of its new 82,000-h.p. Murdock-Willson plant located at the mouth of the Shipshaw River, and the construction of a 3-mile 69-kv. transmission line between the new powerhouse and the Kenogami Paper Mill. In the same year Smelter Power Corporation, a subsidiary of Eastern Mining and Smelting Company, completed the development of its single-unit 42,000-h.p. plant at Chicoutimi on the Chicoutimi River.

The Manicouagan Power Company in 1958 completed its McCormick Dam Project No. 2, a 180,000-h.p. extension of the original Manicouagan River plant at First Falls near Baie Comeau; the final two units of 60,000 h.p. each were placed in operation in March and April. A 161-kv. line was constructed in 1957 connecting the McCormick Dam substation to the Canadian British Aluminum Company's smelter plant at Baie Comeau and in 1958 the Company commenced construction of a 3½-mile 161-kv. line from its 161-kv. substation at Manicouagan to the Quebec Hydro-Electric Commission's substation at Hauterive. The Aluminum Company of Canada continued the development of five units of 200,000 h.p. each on the Peribonca River at Chute des Passes for initial operation late in 1959 and completion in 1960. To augment the flow at Chute des Passes, the Company was proceeding with a project which would enable it, in 1958, to divert water from Manouan Lake into the Bonard River, a tributary of the Peribonca River upstream from Passe Dangereuse. The Shawinigan Water and Power Company made good progress during 1957 on the construction of its 330,000-h.p. Rapide Beaumont development on the St. Maurice River and in 1958 placed in operation all six units. The Company extended its transmission system by 16 miles of 66-kv. line between St. Adrian and Weedon.

The James MacLaren Company is building, for completion in 1959, a hydro-electric station of 50,000 h.p. on the Lièvre River at Dufferin Falls in Buckingham. During 1957 and 1958, the Gatineau Power Company proceeded with the conversion of its 25-cycle equipment to 60 cycles, completed the construction of a new 69-kv. line from St. Jovite to Arundel and a 240-kv. line from Lachute to St. Jérôme. In 1957 the Lower St. Lawrence Power Company installed new 5,000-kva. distribution substations at Mont Joli, Rimouski and Matane and completed construction of a 45-mile 161-kv. transmission line between Les Boules and Causapscal.

Quebec Cartier Mining Company (a subsidiary of United States Steel Corporation) commenced the construction of a hydro-electric plant of three units of 22,000 h.p. each on the Hart-Jaune River, five miles downstream from the outlet of Little Manicouagan Lake. These three units, to be in operation late in 1960, will supply power to the Company's immense iron ore project located in the Lac Jeannine area of Quebec. This development involves the construction of a storage dam at the outlet of Little Manicouagan Lake and it is expected that the additional regulation on the Manicouagan River system will permit the Manicouagan Power Company to install three additional units in its existing 172,000 h.p. McCormick development located near Baie Comeau.

A number of extensions to transmission and distribution systems were completed by other power-producing agencies during the two years. The Shawinigan Water and Power Company had under preparation for the City of Sherbrooke, plans for the construction of a substation consisting of two transformers of 30,000 kva. and 40,000 kva. respectively, required before that city can receive power from the Shawinigan system.

Ontario.—Ontario's new capacity brought into operation during 1957 and 1958 reached a total of 1,758,700 h.p. Nearly all this capacity was installed by The Hydro-Electric Power Commission of Ontario which is Canada's largest power-producing and distributing agency. Work continued on several major projects. The greatest construction progress was that of the St. Lawrence River Power Project, the Canadian portion of which is being constructed by the Commission. The first two units of the 1,200,000-h.p. plant were placed in service in July 1958 and nine more in the second half of the year. The remaining

seven units are scheduled for completion by November 1959. One of the major highlights of the project occurred on July 1, 1958, when an earth-filled cofferdam upstream of the powerhouse was demolished and the powerhouse headpond area was flooded.

Construction of the control dam, which forms part of the Niagara River remedial works carried out jointly by Canada and the United States, was completed in 1957 when the last of the 13 individually operated bascule-type gates was placed in operation.

In the Sir Adam Beck-Niagara Generating Station No. 2, two 105,000-h.p. units were installed in December 1957; two similar units were completed in mid-1958 and the ultimate plant capacity of 1,680,000 h.p. in 16 units was attained. At the pumping-generating station associated with the No. 2 development, three units were placed in operation in the latter part of 1957 and the remaining three in the spring of 1958. During periods of low power demand, the units will pump water diverted from the main power canal into a reservoir having a capacity of 16,000 acre-feet. In periods of high power demand, they will operate as turbines, each with a capacity of 47,000 h.p. at maximum head. Flow from the reservoir will in turn augment the flow in the power canal and thus increase the output in the main generating station.

Further progress was made by the Commission during 1957 and 1958 on the construction of new hydro-electric plants in northwestern Ontario to meet a growing demand for power by pulp and paper and mining companies in that area. Construction was completed in the later year of the three-unit, 81,000-h.p. plant at Whitedog Falls on the Winnipeg River, and of the three-unit, 102,000-h.p. plant at Caribou Falls on the English River. Construction began in the spring of 1957 for an additional unit of 18,500 h.p. in the Manitou Falls Generating Station on the English River and the unit was placed in service in March 1958, increasing the installed capacity of the plant to 92,500 h.p. in five units. At the Cameron Falls and Alexander Falls plants on the Nipigon River, two units of 25,000 h.p. and 19,000 h.p. respectively were added. At Silver Falls on the Kaministiquia River, construction began on a single-unit 60,000-h.p. plant for completion late in 1959.

In northwestern Ontario, the Commission plans to install an additional 60,000-h.p. unit in its Abitibi Canyon Generating Station for service in 1959. The new unit will generate 60-cycle power, as opposed to the 25-cycle power which is developed in the existing 264,000-h.p. installation, and will result in more dependable service loads to those communities in the area that require 60-cycle power. The Commission also plans the construction of a 53,000-h.p. plant in two units on the Mississagi River at Red Rock Falls for service in 1961 and the installation of a new plant at Otter Rapids on the Abitibi River for service in 1962.

A vital factor in the Commission's plans for the future is the development of power resources other than hydraulic as supplemental sources of power. During 1958 the Commission undertook the construction of two new thermal-electric generating stations, Lakeview Generating Station immediately west of the Metropolitan Toronto area and Thunder Bay Generating Station at Fort William. A third station is planned for the Hamilton area. Excellent progress was made also on the enlargement of the Richard L. Hearn Generating Station to 1,200,000 kw. or three times its present size. Studies were continued in conjunction with Atomic Energy of Canada Limited and other agencies with regard to the development of a large-scale reactor for the production of energy from nuclear resources. Plans for a 200,000-kw. nuclear-electric generating station are being developed. In the meantime construction of the 20,000-kw. nuclear-electric generating station near the Des Joachims Generating Station on the Ontario side of the Ottawa River was resumed. Work there had been temporarily suspended in 1957 to permit changes in the design of the reactor to be incorporated.

Apart from the activities of the Commission, the Great Lakes Power Company placed in service in 1957 a new 30,000-h.p. unit to its Upper Falls plant on the Montreal River increasing the plant capacity to 55,300 h.p. In 1958, a 30,300-h.p. single-unit generating station was completed at Gartshore Falls on the Montreal River and a similar unit on the Michipicoten River at Cat Falls is expected to be in operation by mid-1959.

Prairie Provinces.—In Manitoba, the Manitoba Hydro-Electric Board continued the construction of the first-stage development of the Grand Rapid project on the Nelson River which will consist of five units of 42,000 h.p. each under a 50-foot head. Operation of two units is expected by mid-1960, and the remaining three in 1961. The power will be supplied to the mining development of the International Nickel Company at Moak, Mystery and Thompson Lakes. The Sherritt-Gordon Mines Limited completed in 1957 the development of a second 7,000-h.p. hydro-electric plant in one unit on the Laurie River.

In addition to hydro-electric activities, the Manitoba Hydro-Electric Board completed in 1958 the construction of its Brandon steam plant, increasing capacity to 132,000 kw. in four units. Work continued on the Selkirk steam plant which will contain two units each rated at 66,000 kw., one of which is scheduled for operation late in 1959 and the second by mid-1960. The diesel generating plant at The Pas was purchased on Dec. 1, 1958, by the Manitoba Power Commission and an immediate extension was begun to increase plant capacity to 3,150 kw. from the existing 1,825 kw. The new plant is expected to be in operation by the end of 1958. The Department of National Defence added a 1,136-kw. generator unit to its diesel plant at Churchill.

In Saskatchewan, the Churchill River Power Company continued construction at its Island Falls development for the addition of a 19,000-h.p. unit in 1959 which will raise the total plant capacity to 125,500 h.p. The Saskatchewan Power Corporation, whose transmission network covers a large part of the southern portion of the province, depends exclusively on thermal-electric stations for power production. Agreement between the Government of Canada and the Government of Saskatchewan was reached in July 1958 authorizing the construction of the multi-purpose South Saskatchewan River project. Included in this project is a proposed installation of about 200,000 h.p. of hydro-electric capacity and facilities to irrigate about 500,000 acres of land. During the year, rural electric service was extended to an additional 5,000 farms making a total of about 51,500 electrified farms in the province. During 1957, the Corporation increased its thermal plant capacity by the addition of a 30,000-kw. unit at its Estevan plant, an 8,000-kw. unit at its Kindersley plant and a 3,000-kw. unit at its Swift Current plant. During 1958, the capacity of the Queen Elizabeth plant at Saskatoon was increased by 66,000 kw. and the Kindersley plant by the installation of two gas turbine units, each with a maximum rating of 10,000 kw.

In Alberta, Calgary Power Limited added to its Cascades development, late in 1957 a second 23,000-h.p. unit under a head of 320 feet. The construction of extensions to its Spray and Rundle plants of approximately 62,000 h.p. and 40,000 h.p., respectively, was suspended as a result of an unexpected decline in the rate of growth of the Company's load curve. The revised schedule calls for the additional units to commence service in October 1960. In thermal power development, the Company added another 66,000 kw. to its Wabamun plant. In 1957 a 1,250-kw. unit was added by Northland Utilities at its thermal-electric plant at Jasper. At the Fairview plant, operated jointly with Canadian Utilities Limited, a new 3,000-kw. gas engine generator unit was brought into operation.

Early in 1958, Canadian Utilities Limited placed in operation a new single-unit 10,000-kw. thermal plant at Sturgeon Lake and had in active prospect the addition of a 32,000-kw. thermal unit at its Battle River plant to commence operation in 1961. The City of Edmonton brought into service a new 10,000-kw. unit at its municipally owned plant and the City of Lethbridge added to its municipally owned plant a gas turbine generating unit with a capacity of 10,000 kw.

British Columbia.—Hydro-electric construction was active in British Columbia where a total of 607,500 h.p. of new capacity was installed during 1957 and 189,700 h.p. during 1958. The latter figure allowed for the dismantling of 2,300 h.p. of capacity.

On Vancouver Island, the British Columbia Power Commission completed in 1957 the installation, at its Ladore Falls development on the Campbell River, of the second of two 35,000-h.p. units. In mid-1958, the Commission placed in operation an initial unit of 42,000 h.p. under a head of 140 feet at its Strathcona development near the outlet of Upper Campbell Lake, and construction proceeded on a 35,000-h.p. development on the Ash River near Port Alberni for operation early in 1959. On the mainland, the Commission added a third 16,500-h.p. unit at its Whalshan development near Needles. In active prospect are three new developments on Vancouver Island—two located in the Alberni area on the Stamp and Sproat Rivers with potential of 35,000 h.p. and 17,000 h.p., respectively, and the third on the Kokish River in the Englewood area with a potential of 51,500 h.p. In addition, the Commission has four possible developments under active study and investigation. One is on Vancouver Island on the Nempkish River and has a potential of 81,500 h.p. The other three are located on the mainland and consist of a development of up to 1,900,000 h.p. which would result from the diversion of water from the Chilko to the Homathko Rivers, a 140,000-h.p. potential at Helmoken Falls on the Murtle River tributary to the Clearwater River, and a potential of 120,000-h.p. at Hobson Lake, also in the Clearwater system.

In the field of thermal development, the Commission completed two single-cycle gas-turbine units of 26,500 h.p. each at its Georgia Generating Station at Chemainus, placed in service in September 1957 and January 1958 respectively. Two regenerated cycle gas-turbine units, each having a 24,000-h.p. turbine, were expected to be in operation by December 1958 and February 1959 respectively. At Prince George, seven diesel units with a total capacity of 6,480 kw. were transferred from active to inactive plant. The active plant now consists of four tri-fuel internal combustion units, each with a capacity of 3,000 kw. Two more 3,000-kw. units are in active prospect and it is anticipated that one will be in service by December 1959 and the other by February 1960. At Quesnel, six diesel units with a total capacity of 4,200 kw. were transferred from active to inactive plant. The active plant now consists of three tri-fuel internal combustion units, each with a capacity of 3,000 kw. Another 3,000-kw. unit is in active prospect, with completion anticipated for May 1960. At Dawson Creek, three diesel units with a total capacity of 1,800 kw. were transferred from active to inactive plant. The active plant now consists of three 3,000-kw. tri-fuel internal combustion units and two 1,000-kw. diesel units. Two more 3,000-kw. units are in active prospect, with the completion of one anticipated for October 1959 and the other for April 1960. Also in active prospect is a 1,000-kw. diesel unit at Smithers and a 100-kw. diesel unit at Alert Bay. The probable completion dates are June 1959 for the unit at Smithers and December 1959 for the unit at Alert Bay.

The British Columbia Electric Company's Cheakamus development, consisting of two units of 95,000 h.p., was brought into operation late in 1957. The Company also replaced its 4,000-h.p. two-unit installation at Clowham Falls on Sechelt Peninsula by a single-unit plant of 40,000 h.p. At the Company's Bridge River system, the power plant at La Joie dam, consisting of 30,000 h.p. in one unit, was placed in service. Work was continuing on the Bridge River No. 2 development which, when completed late in 1959, will provide an additional capacity of 328,000 h.p. to the system. The new storage dam required for the No. 2 development will raise the head on the existing Bridge River No. 1 development and is expected to increase the total capacity of that plant from 248,000 h.p. to 276,000 h.p.

In addition to its hydro-electric installations, the Company expects to complete construction of its Port Mann gas-turbine plant early in 1959. Four units will be installed, each consisting of a 33,500-h.p. turbine. At Ioco on Burrard Inlet, construction started on the development of a steam plant which will have an ultimate capacity of six units of 211,000 h.p. each. Two units are planned for service in 1961 and remaining units subsequently, as required by growth.

The Aluminum Company of Canada Limited installed in 1957 the fifth and sixth units of 150,000 h.p. each in its Kemano plant. Early in 1958, a seventh similar unit was added, bringing the total capacity to 1,050,000 h.p.

Northwest Territories and Yukon Territory.—The Northern Canada Power Commission late in 1957 added a second 3,000-h.p. unit at its Mayo River plant. In 1958 the installation of 15,000 h.p. in two units was completed on the Yukon River with provision for a third similar unit at a later date. On the Snare River in the Northwest Territories, the Commission is planning the construction of a 9,200-h.p. development in one unit at a site about eight miles downstream from the existing Snare River plant.

The Commission installed a 150-kw. diesel generating plant at Inuvik and began construction to add a 100-kw. unit to its Fort Simpson diesel plant. Additional capacity provided by the Commission consists of two 375-kw. diesel generating units for use as required. In Yukon Territory, the Yukon Electrical Company Limited installed a 150-kw. diesel plant at Haines Junction.

Section 4.—Electric Power Statistics

The statistics in this Section, which was formerly entitled "The Central Electric Station Industry" have been completely revised since the publication of the 1957-58 Year Book. The former series covered firms that sold electric power, most of which were public utilities, but included also a small number of industrial plants that had some electric power available for sale. The new series includes all electrical utilities as well as all industrial establishments that generate power regardless of whether or not any is sold and therefore gives the *total* production and distribution of electric power in Canada. Utilities are defined as companies, commissions, municipalities or individuals whose primary function is to sell most of the electricity they have either generated or purchased; they are classified as publicly or privately operated. Industrial establishments are companies or individuals that generate electricity mainly for use in their own plants.

Table 7 gives historical figures compiled on the old basis, with the 1956 data included on both bases for comparative purposes. All other 1956 data are on the new basis.

7.—Electric Energy Generated, by Type of Station 1941-57 and by Province 1956 and 1957

Year and Province or Territory	Generated by—		Total	Year and Province or Territory	Generated by—		Total
	Water Power	Thermal Power			Water Power	Thermal Power	
	'000 kwh.	'000 kwh.	'000 kwh.		'000 kwh.	'000 kwh.	'000 kwh.
1941.....	32,628,930	688,733	33,317,663	1950.....	46,624,218	1,869,500	48,493,718
1942.....	36,582,953	772,226	37,355,179	1951.....	52,955,002	1,896,842	54,851,844
1943.....	39,660,312	819,281	40,479,593	1952.....	57,023,530	2,385,668	59,409,198
1944.....	39,553,352	1,045,427	40,598,779	1953.....	58,926,462	3,934,465	62,860,927
1945.....	39,131,020	999,034	40,130,054	1954.....	62,572,316	3,364,124	65,936,440
1946.....	40,692,395	1,044,592	41,736,987	1955.....	69,478,003	3,432,589	72,910,592
1947.....	42,273,167	1,151,632	43,424,799	1956.....	73,524,583	4,479,770	78,004,353
1948.....	41,070,095	1,319,556	42,389,651	1956 ¹	81,835,386	6,530,677	88,366,063
1949.....	42,779,199	1,639,374	44,418,573	1957 ¹	83,373,220	7,657,660	91,030,880
1956¹				1957¹			
Nfld.....	1,360,745	35,301	1,396,046	Nfld.....	1,313,396	51,113	1,364,509
P.E.I.....	441	51,362	51,803	P.E.I.....	370	56,618	56,988
N.S.....	592,361	888,867	1,481,228	N.S.....	526,493	1,007,344	1,533,837
N.B.....	522,938	839,815	1,362,753	N.B.....	706,464	698,297	1,404,761
Que.....	37,534,455	209,226	37,743,684	Que.....	37,905,814	225,613	38,131,427
Ont.....	27,478,197	1,568,743	29,047,940	Ont.....	27,959,037	2,153,403	30,112,440
Man.....	3,346,394	18,910	3,365,304	Man.....	3,350,396	26,993	3,377,389
Sask.....	555,466	1,030,433	1,585,899	Sask.....	566,020	1,200,324	1,766,344
Alta.....	979,157	1,164,316	2,143,473	Alta.....	807,253	1,624,649	2,431,902
B.C.....	9,350,558	719,778	10,070,336	B.C.....	10,116,336	607,701	10,724,037
Yukon and N.W.T.....	114,671	2,926	117,597	Yukon and N.W.T.....	121,641	5,605	127,246
Canada, 1956..	81,835,386	6,530,677	88,366,063	Canada, 1957....	83,373,220	7,657,660	91,030,880

¹ New series, see text above.

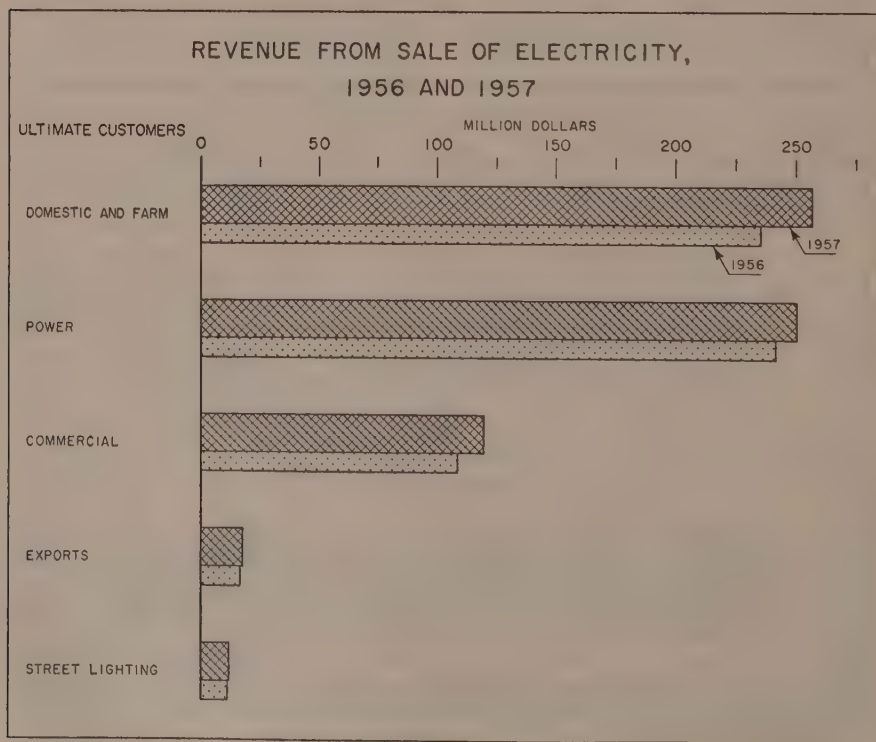
Of the total generation in 1957 of 91,030,880,000 kwh. 91.6 p.c. was produced from water power and 8.4 p.c. was generated thermally; in 1956 total generation was 88,366,063,000 kwh. of which 92.6 p.c. was produced from water power and 7.4 p.c. thermally. The proportions generated in 1957 differed somewhat among provinces as shown in the following statement.

<u>Province</u>	<u>Hydro</u>	<u>Thermal</u>	<u>Province or Territory</u>	<u>Hydro</u>	<u>Thermal</u>
	p.c.	p.c.		p.c.	p.c.
Newfoundland.....	96.3	3.7	Manitoba.....	99.2	0.8
Nova Scotia.....	34.3	65.7	Saskatchewan.....	32.0	68.0
New Brunswick.....	50.3	49.7	Alberta.....	33.2	66.8
Quebec.....	99.4	0.6	British Columbia.....	94.3	5.7
Ontario.....	92.8	7.2	Yukon and N.W.T.....	95.6	4.4

Table 8 gives summary figures of power production and distribution by province and Tables 9 and 10 give figures by type of production establishment. Total installed capacity in Canada amounted to 17,168,614 kw. in 1957, an increase of 1,268,434 kw. over 1956. Of the 1957 total, 13,444,450 kw. were accounted for by utilities and the remainder by industrial establishments. During 1956 and 1957 total sales to ultimate customers amounted to 57,436,143,000 kwh. and 60,356,171,000 kwh. respectively, of which nearly 99.7 p.c. was sold each year by utilities.

Sales to power customers made up about 64.9 p.c. in 1956 and 62.8 p.c. in 1957 of the total, sales to domestic and farm customers were about 25 p.c. and 26 p.c. and commercial sales about 9.3 p.c. and 10 p.c. in the respective years.

Exports to the United States in 1957 amounted to 4,829,843,000 kwh. compared with 5,103,669,000 kwh. in 1956.



8.—Summary Electric Power Statistics, by Province, 1956 and 1957

Year and Province or Territory	Installed Generating Capacity	Energy Made Available in Canada	Exported to U.S.A.	Ultimate Customers	Total Revenue from Ultimate Customers	Electrical Utilities	
						Employees	Salaries and Wages
	kw.	'000 kwh.	'000 kwh.	No.	\$'000	No.	\$'000
1956							
Newfoundland.....	234,669	1,364,550	—	54,723	8,486	607	1,644
Prince Edward Island..	26,363	51,803	—	16,892	1,801	189	507
Nova Scotia.....	382,864	1,472,994	—	180,476	22,233	1,542	4,521
New Brunswick.....	301,015	1,370,811	25,014	136,052	16,196	1,164	3,923
Quebec.....	5,981,764	32,520,489	43,008	1,179,393	156,965	8,747	31,868
Ontario.....	5,145,303	29,520,363	5,010,968	1,687,702	239,488	15,956	65,196
Manitoba.....	649,288	3,804,231	8	254,309	28,479	2,162	7,501
Saskatchewan.....	415,748	1,032,685	—	206,162	24,457	1,430	5,360
Alberta.....	604,161	2,171,985	—	276,382	34,901	1,598	6,443
British Columbia.....	2,118,130	10,074,059	19,671	430,924	62,293	2,645	11,715
Yukon and N.W.T.....	40,875	117,597	—	3,464	1,689	78	289
Totals, 1956.....	15,900,180	83,501,567	5,103,669	4,426,479	596,988	36,118	137,967
1957							
Newfoundland.....	248,103	1,319,889	—	57,034	8,908	596	1,766
Prince Edward Island..	25,524	56,988	—	18,014	2,045	197	498
Nova Scotia.....	427,613	1,524,979	—	184,711	23,126	1,590	5,069
New Brunswick.....	396,591	1,383,793	48,649	139,761	17,019	1,133	3,835
Quebec.....	6,383,093	32,714,421	549,040	1,241,796	170,633	9,466	36,735
Ontario.....	5,405,717	31,223,491	4,222,225	1,742,199	253,284	16,184	71,477
Manitoba.....	657,104	3,758,502	22	258,849	28,481	2,416	8,387
Saskatchewan.....	459,945	1,236,719	—	220,069	27,242	1,875	6,534
Alberta.....	623,940	2,453,633	—	295,453	38,952	1,647	6,729
British Columbia.....	2,508,992	10,970,636	9,907	449,530	67,135	2,635	12,579
Yukon and N.W.T.....	31,992	127,246	—	3,762	1,889	78	343
Totals, 1957.....	17,168,614	86,770,297	4,829,843	4,611,178	638,714	37,817	153,952

9.—Summary Electric Power Statistics, by Type of Establishment, 1956 and 1957

Year and Item	Electrical Utilities			Industrial Establishments	Total	
	Publicly Operated	Privately Operated	Total			
1956						
Installed generator capacity.....	kw.	7,333,550	5,129,465	12,463,015	3,437,165	15,900,180
Energy generated.....	'000 kwh.	42,869,295	25,772,847	68,642,142	19,723,921	88,366,063
Hydro.....	"	39,577,500	24,661,112	64,238,612	17,596,774	81,835,386
Thermal.....	"	3,291,795	1,111,735	4,403,530	2,127,147	6,530,677
Energy Made Available in Canada....	'000 kwh.	...	...	...	...	83,501,567
Disposal of energy in Canada.....	'000 kwh.	39,206,998	24,174,179	63,381,177	1,142,578	64,523,755
Energy exported to United States.....	"	4,029,158	1,029,958	5,059,116	44,533	5,103,669
Ultimate customers in Canada.....	No.	3,064,140	1,347,819	4,411,959	14,520	4,426,479
Domestic and farm.....	"	2,657,074	1,163,463	3,820,537	13,376	3,833,913
Commercial.....	"	338,371	151,679	490,050	994	491,044
Power.....	"	66,270	30,588	96,858	124	96,982
Street lighting.....	"	2,425	2,089	4,514	26	4,540
Revenue from ultimate customers.....	\$'000	392,495	202,274	594,769	2,219	596,988
Revenue from exports to United States.....	\$'000	13,610	3,098	16,708	144	16,852
Employees.....	No.	25,447	10,671	36,118	..	...
Salaries and wages.....	\$'000	96,915	41,052	137,967	..	...

9.—Summary Electric Power Statistics, by Type of Establishment, 1956 and 1957—concluded

Year and Item	Electrical Utilities			Industrial Establishments	Total
	Publicly Operated	Privately Operated	Total		
1957					
Installed generator capacity..... kw.	8,019,571	5,424,879	13,444,450	3,724,164	17,168,614
Energy generated..... '000 kwh.	45,116,612	26,406,382	71,522,994	19,507,886	91,030,880
Hydro..... "	41,231,556	24,808,511	66,040,067	17,333,153	83,373,220
Thermal..... "	3,885,056	1,597,871	5,482,927	2,174,733	7,657,660
Energy Made Available in Canada... '000 kwh.	...	...	...	...	86,770,297
Disposal of energy in Canada..... '000 kwh.	42,564,327	25,455,276	68,019,603	212,523	68,232,126
Energy exported to United States..... "	4,362,137	422,923	4,785,060	44,783	4,829,843
Ultimate customers in Canada..... No.	3,192,761	1,403,902	4,596,663	14,515	4,611,178
Domestic and farm..... "	2,779,436	1,211,589	3,991,025	13,175	4,004,200
Commercial..... "	347,950	157,364	505,314	1,195	506,509
Power..... "	62,829	32,764	95,593	127	95,720
Street lighting..... "	2,546	2,185	4,731	18	4,749
Revenue from ultimate customers..... \$'000	419,468	217,105	636,573	2,141	638,714
Revenue from exports to United States \$'000	15,744	1,836	17,580	202	17,782
Employees..... No.	27,101	10,716	37,817	..	...
Salaries and wages..... \$'000	110,420	43,532	153,952	..	...

10.—Electric Power Generated classified by Type of Establishment, by Province, 1956 and 1957

Year and Province	Electrical Utilities		Industrial Establishments	Total
	Publicly Operated	Privately Operated		
1956	'000 kwh.	'000 kwh.	'000 kwh.	'000 kwh.
Newfoundland.....	596	1,011,662	383,788	1,396,046
Prince Edward Island.....	7,560	44,236	7	51,803
Nova Scotia.....	513,111	802,578	165,539	1,481,228
New Brunswick.....	548,868	347,202	466,683	1,362,753
Quebec.....	10,295,458	16,970,461	10,477,765	37,743,684
Ontario.....	25,352,612	1,556,635	2,138,693	29,047,940
Manitoba.....	3,333,688	—	31,616	3,365,304
Saskatchewan.....	879,415	671,571	34,913	1,585,899
Alberta.....	771,142	1,249,358	122,973	2,143,473
British Columbia.....	1,108,324	3,113,509	5,848,503	10,070,336
Yukon and Northwest Territories.....	58,521	5,635	53,441	117,597
Canada, 1956.....	42,869,295	25,772,847	19,723,921	88,366,063
1957				
Newfoundland.....	597	981,818	382,094	1,364,509
Prince Edward Island.....	3,142	53,841	5	56,988
Nova Scotia.....	463,385	891,933	178,519	1,533,837
New Brunswick.....	599,624	383,309	421,828	1,404,761
Quebec.....	11,403,254	17,134,668	9,593,505	38,131,427
Ontario.....	26,414,536	1,585,153	2,112,751	30,112,440
Manitoba.....	3,341,021	—	36,368	3,377,389
Saskatchewan.....	1,019,672	658,745	87,927	1,766,344
Alberta.....	781,052	1,468,361	182,489	2,431,902
British Columbia.....	1,026,110	3,239,364	6,458,563	10,724,037
Yukon and Northwest Territories.....	64,219	9,190	53,837	127,246
Canada, 1957.....	45,116,612	26,406,382	19,507,886	91,030,880

Average domestic and farm consumption rose from 3,740 kwh. in 1956 to 3,960 kwh. in 1957. Among the provinces the averages in 1957 varied from a low of 1,367 kwh. in Prince Edward Island to a high of 5,895 kwh. in Manitoba. For domestic and farm customers the average annual bill was \$64.19 in 1957 as against \$61.41 in 1956, an increase of 4.5 p.c.

Although many utilities do not keep records on farm customers separate from other domestic customers, the data reported on farm service indicate that the average consumption rose from 3,127 kwh. per customer in 1956 to 3,415 kwh. in 1957 and the average bill was \$80.80 in 1957 compared with \$75.59 in 1956.

11.—Domestic and Farm Service by Electrical Utilities and Industrial Establishments, 1939, 1945 and 1955-57

Item		1939	1945	1955	1956	1957
Customers.....	No.	1,623,672	1,987,360	3,645,313	3,833,913	4,004,200
Kilowatt-hours sold.....	'000	2,310,891	3,365,497	12,759,657	14,337,628	15,857,618
Revenue received.....	\$'000	43,793	55,736	211,533	235,446	257,038
Kilowatt-hours per customer.....	No.	1,423	1,693	3,500	3,740	3,960
Average annual bill.....	\$	26.97	28.05	58.03	61.41	64.19
Revenue per kwh.....	cts.	1.90	1.66	1.66	1.64	1.62

Data on the amount of energy generated by type of fuel were collected from utilities for the first time in 1956. Coal accounted for 53.8 p.c. of thermal generation, natural gas for 26.1 p.c. and petroleum fuels for 20.1 p.c. in that year and the percentages in 1957 were 55.4, 28.9 and 15.7, respectively.

12.—Fuel Used by Electrical Utilities to Generate Power, by Province, 1956 and 1957

Year and Province or Territory	Coal		Petroleum Fuels		Gas	
	Quantity	Value	Quantity	Value	Quantity	Value
	tons	\$	Imp. gal.	\$	'000 cu. ft.	\$
1956						
Newfoundland.....	—	—	250,582	40,180	—	—
Prince Edward Island.....	—	—	4,658,206	383,153	—	—
Nova Scotia.....	399,080	3,708,218	9,515,075	694,546	—	—
New Brunswick.....	289,548	2,760,480	2,198,720	251,996	—	—
Quebec.....	—	—	1,207,577	278,655	—	—
Ontario.....	469,350	3,950,617	977,002	176,349	—	—
Manitoba.....	732	4,363	241,443	48,159	—	—
Saskatchewan.....	355,334	885,423	43,723,578	2,616,827	2,436,411	650,034
Alberta.....	80,254	114,708	849,238	133,102	13,685,424	1,714,090
British Columbia.....	887	10,916	8,630,475	1,794,482	211,400	101,903
Yukon and Northwest Territories...	—	—	124,924	29,292	—	—
Totals, 1956.....	1,595,185	11,434,725	72,376,820	6,446,741	16,333,235	2,466,027
1957						
Newfoundland.....	—	—	359,895	103,405	—	—
Prince Edward Island.....	—	—	5,115,064	423,775	—	—
Nova Scotia.....	458,436	4,724,266	7,334,977	623,536	—	—
New Brunswick.....	211,595	2,067,620	2,375,693	268,362	—	—
Quebec.....	—	—	577,229	96,566	—	—
Ontario.....	722,275	6,227,947	914,243	211,048	—	—
Manitoba.....	6,377	30,610	278,875	57,898	—	—
Saskatchewan.....	449,467	1,180,338	42,408,223	2,647,026	3,380,108	951,596
Alberta.....	133,617	162,088	642,674	95,504	18,203,343	2,060,271
British Columbia.....	110	1,351	7,324,403	1,667,971	542,637	149,964
Yukon and Northwest Territories...	—	—	323,332	81,513	—	—
Totals, 1957.....	1,981,877	14,394,220	67,654,608	6,176,604	22,126,088	3,161,831

Section 5.—Ownership and Regulation of Electrical Utilities*

Power is generated in Canada by publicly and privately operated utilities and by industrial establishments. Table 9, p. 564, giving summary statistics by type of establishment, shows that 50 p.c. of the total electric power generated in 1957 was produced by publicly operated utilities, 29 p.c. by privately operated utilities and 21 p.c. by industrial establishments. However, ownership differs greatly in different areas of the country. Quebec output, for instance, is predominantly from privately owned plants since a large portion of the power development in that province is connected with pulp and paper establishments and with the aluminum industry. In Ontario, on the other hand, almost all electric power is produced by a publicly owned utility, The Hydro-Electric Power Commission of Ontario. The distribution of power production in all provinces is shown clearly in Table 10, p. 564.

Because of the absence of free market determination of prices and regulation of services in an industry that is semi-monopolistic, regulation of electrical utilities has been attempted in most provinces. The governing bodies of the provincial electric power commissions, their functions and activities are summarized in the following paragraphs. Certain privately owned utilities are also covered.

Newfoundland.—There are no publicly owned hydro-electric systems in Newfoundland. The largest water power development in the province is located at Deer Lake. The plant, which is operated by Bowater's Newfoundland Pulp and Paper Company Limited, has a total capacity of 154,000 h.p. This Company develops hydro-electric energy at Deer Lake mainly for its own use in the manufacture of pulp and paper and also supplies electric power to the Buchans Mining Company for its mining operations and to the Newfoundland Light and Power Company Limited which distributes electricity to consumers in Corner Brook and adjacent communities in the Bay of Islands sections.

The electrical distribution system of the Anglo Newfoundland Development Company Limited supplying the towns of Grand Falls, Windsor, Bishop's Falls and Botwood was acquired by the Newfoundland Light and Power Company Limited in 1956.

The Company, in addition to its seven hydro plants, operates a steam generation plant at St. John's. The Company recently acquired the right to supply power to the International Airport at Gander, the new Township of Gander nearby, and the town of Lewisporte providing for that purpose a 17,000-h.p. hydro development at Rattling Brook, Norris Arm.

The United Towns Electric Company Limited operates eight hydro plants and two diesel plants, the latter located on the Burin Peninsula. A subsidiary, the West Coast Power Company, operates diesel generators at St. George's and Port aux Basques, and a hydro plant at Lookout Brook. Another subsidiary, the Wabana Light and Power Company, distributes electricity to the town of Bell Island, the power being purchased from the Newfoundland Light and Power Company Limited. The Union Electric Light and Power Company operates plants at Clarendville, Port Union and Trinity.

Power plant construction recently completed or under way is outlined at pp. 555-556.

Prince Edward Island.—The area of Prince Edward Island is only 2,184 sq. miles and three-quarters of its population are rural dwellers. Electric power must therefore be supplied to rather densely populated rural districts interspersed with a considerable number of small municipalities. Power is mainly generated in thermal and diesel plants using imported fuels.

* Revised by the various provincial commissions or authorities concerned.

The Maritime Electric Company Limited supplies 53,471,340 kwh. of the Island's requirements of 57,233,820 kwh., with a system peak of 12,800 kw., from its Charlottetown plant. The plant consists of six steam turbines of 22,500 kw. total capacity. In 1957 the Company served 11,966 rural and urban customers over 850 miles of company-owned distribution line with an additional 1,968 rural customers served by 480 miles of distribution line owned by the provincial government but connected with the company system. The town of Summerside is connected with Charlottetown by a 33-kv. transmission line and purchases approximately 6,500,000 kwh. annually from the Maritime Electric Company.

Two other power systems supply the remainder of the power consumed. The town of Summerside's station is powered by nine diesel engines, has a total capacity of 2,835 kw. and an annual energy production of 3,392,180 kwh. The station serves 2,210 customers in Summerside and 1,169 customers over 132 miles of rural lines. Approximately 882,976 kwh. of energy is sold to the Scales Hydro Electric Company Limited. The Scales Hydro Electric Company Limited operates a small station in Freetown on the Dunk River. Its total capacity is 250 kw., of which 175 kw. is generated by water power and the remainder by diesel engines. The annual energy production is 370,300 kwh. and 694 customers in surrounding areas are served over 29 miles of distribution line.

Nova Scotia.—The Nova Scotia Power Commission was created under the Power Commission Act of 1919 with the function of supplying electric power and energy by the most economical means available. The Rural Electrification Act of 1937 greatly increased the possibilities for retail service by providing financial assistance to equalize cost and revenue of extensions approved by the Governor in Council. In 1941 an amendment to the Power Commission Act authorized the Commission, subject to the approval of the Governor in Council, to regulate and control the generation, transmission, distribution, supply and use of power in the province. Certain investigatory work is carried on in the province by the Federal Government in close association with the Commission, but the control of water resources is vested in the Crown and administered under the provisions of the Nova Scotia Water Act of 1919. The Commission pays regular fees for water rights.

Financially the Commission is self-supporting, repaying borrowings from revenue. The balance sheet at Nov. 30, 1957, showed total fixed assets of \$48,361,690 including work in progress amounting to \$3,296,653. Current assets amounted to \$900,706. Liabilities were as follows: fixed \$38,254,276; current \$3,790,909; contingency and renewal reserves \$4,746,440; sinking fund reserves \$7,798,652; and general reserves and special reserves \$2,414,832.

The initial development of the Commission was an 800-h.p. installation on the Mushamush River which went into operation in 1921 and delivered 208,752 kwh. in the first complete year of operation. Succeeding years showed a marked growth in installed capacity which at Nov. 30, 1957, reached 113,000 h.p. in hydraulic turbines, 2,200 h.p. in diesel units and 41,125 kw. in steam turbines. Total generation for the year was 453,980,807 kwh.

The territory of the Commission extends over the entire province and embraces six systems which include 25 generating stations and over 4,500 miles of transmission and distribution lines through which wholesale and retail customers received 448,510,014 kwh. during the year ended Nov. 30, 1957. Power plant construction recently completed or under way is outlined at pp. 555-556.

The installed capacity and annual output of the various systems of the Nova Scotia Power Commission are given in Table 13.

13.—Capacity and Output of the Nova Scotia Power Commission, Year Ended Nov. 30, 1957

System ¹	First Year of Operation	Present Installed Capacity	Output
		h.p.	kwh.
Western Network—			
Mushamush.....	1921	330	841,350
Harmony.....	1943	1,200	3,296,800
Roseway.....	1930	1,060	2,884,170
Gulch.....	1952	8,500	20,869,448
Ridge.....	1957	5,300	4,353,820
Portable (diesel).....	...	...	52,700
Eastern Network—			
Barrie Brook.....	1940	500	2,169,920
Dickie Brook.....	1948	3,500	7,362,640
Malay Falls.....	1924	5,440	9,067,390
Ruth Falls.....	1925	10,590	27,979,600
Liscomb.....	1957	700	2,461,584
Trenton (thermal).....	1951	40,000 ²	114,267,900
St. Margaret.....	1921	15,700	24,972,100 ²
Mersey—			
Original development.....	1928	28,000	217,844,650
Cowie Falls.....	1938	10,200	
Deep Brook.....	1950	12,800	
Lower Great Brook.....	1955	6,240	
Canseau (diesel).....	1937	2,201	1,527,540
Canseau (thermal).....	1945	1,125 ²	4,729,710
Tusket.....	1929	2,820	9,299,485
Total.....	...	...	453,980,807

¹ Hydro unless otherwise noted.

² Kilowatts.

New Brunswick.—The New Brunswick Electric Power Commission was incorporated under the Electric Power Act, 1920. Generating stations owned by the Commission at Mar. 31, 1957, were as follows:—

Plant	Type	Capacity	Plant	Type	Capacity
		h.p.			h.p.
Musquash.....	Hydro.....	9,320	Campobello.....	Diesel.....	300
Tobique.....	Hydro.....	27,000	Grand Manan.....	Diesel.....	1,040
Grand Lake.....	Steam.....	58,700	Shippegan.....	Diesel.....	1,340
Saint John.....	Steam.....	21,500	St. Quentin.....	Diesel.....	750
Chatham.....	Steam.....	46,300			
			TOTAL CAPACITY.....		166,250

All the above generating units with the exception of St. Quentin, Campobello and Grand Manan, were interconnected in a province-wide grid system. The statistical information given in Table 14 shows the growth of the Commission's undertakings since 1953.

14.—Growth of the New Brunswick Electric Power Commission, Years Ended Mar. 31, 1953-57

Item	1953	1954	1955	1956	1957
High-voltage transmission line... miles	827	859	888	1,071	1,121
Distribution line..... "	6,245	6,681	6,891	6,937	7,100
Direct customers..... No.	61,054	64,181	66,531	69,415	76,490
Plant capacities..... h.p.	140,570	140,570	140,570	140,570	166,250
Power generated..... kwh.	321,232,150	379,369,500	422,750,090	493,609,040	606,443,490
Capital invested..... \$	48,120,336	52,077,662	56,634,724	71,140,250	90,152,808
Revenue..... \$	7,059,588	7,814,229	8,528,459	9,635,272	11,286,117

Power plant construction recently completed or under way in New Brunswick is outlined at pp. 555-556.

Quebec.—*The Quebec Streams Commission.*—Created by S.Q. 1 Geo. V, c. 5, and given additional powers by 3 Geo. V, c. 6 (R.S.Q. 1925, c. 46) and 20 Geo. V, c. 34, the Quebec Streams Commission was authorized to ascertain the water resources of the province, to make recommendations regarding their control, and to construct and operate certain storage dams to regulate the flow of streams. It assisted companies engaged in such work by the systematic collection of data on the flow of the principal rivers and on meteorological conditions, by investigation of numerous water power sites and determination of the longitudinal profile of a large number of rivers.

On Apr. 1, 1955, the Quebec Streams Commission was abolished and its powers and attributions transferred to the Hydraulic Resources Department, Province of Quebec. The rivers controlled by the Commission at the time of transfer, either by means of dams on the rivers or by regulating the outflow of lakes at the headwaters, were: the St. Maurice, the Gatineau, the Lièvre, the St. Francis, the Chicoutimi, the Au Sable, and the Métis. The Commission also operated nine reservoirs on North River, two in the watershed of the Ste. Anne de Beaupré River, and one at the outlet of Lake Morin on Rivière du Loup (lower).

Other Reservoir Control.—Storage reservoirs otherwise controlled or operated are: the Lake St. John, the Lake Manouane and Passe Dangereuse on the Peribonca River, and the Onatchiway on the Shipshaw River; Témiscouata Lake on the Madawaska River, controlled by the Gatineau Power Company; Memphremagog Lake on the Magog River, controlled by the Dominion Textile Company; Témiscamingue and Quinze Lakes on the Ottawa River, controlled by the federal Department of Public Works; Kipawa Lake on the Ottawa River, controlled by the Gatineau Power Company; and Dozois Lake on the upper Ottawa River and Pipmaukin Lake in the Bersimis River watershed, controlled by the Quebec Hydro-Electric Commission.

Power developments on the Saguenay River, benefiting from the Peribonca and Lake St. John reservoirs, have a total capacity of 1,950,000 h.p.

The Quebec Hydro-Electric Commission.—The Quebec Hydro-Electric Commission was established by S.Q. 8 Geo. VI, c. 22, with the object of supplying power to the municipalities, to industrial and commercial undertakings and to citizens of the Province of

Quebec at the lowest rates consistent with sound financial administration. The Commission at the end of 1956 controlled, among other assets, the following hydro-electric plants:*

<u>Plant</u>	<u>River</u>	<u>Installed Capacity</u> h.p.
Cedars.....	St. Lawrence.....	206,400
Sault au Recollet.....	Rivière des Prairies.....	60,000
Beauharnois.....	St. Lawrence.....	1,400,000
Rapid VII.....	Upper Ottawa.....	64,000
Rapid II.....	Upper Ottawa.....	48,000
Bersimis No. 1.....	Bersimis.....	450,000

The Commission operates a public utility system which supplies the electric light and power requirements of Metropolitan Montreal and surrounding districts, embracing a population of nearly 2,000,000. From the Cedars plant, electric energy is supplied to the Aluminum Company of America at Massena, N.Y., and through the Beauharnois Light, Heat and Power Company power is sold to The Hydro-Electric Power Commission of Ontario. Sales involved are in the neighbourhood of 100,000 h.p. to Massena, N.Y., and 250,000 h.p. to Ontario.

* The Commission also purchases 135,000 h.p. from the Shawinigan Water and Power Company.

15.—Growth of the Quebec Hydro System, 1947-56

NOTE.—Figures for the years 1935-46 will be found in the 1950 Year Book, p. 572.

Year	Municipalities Served	Customers Served	Power Distributed	
			Total	Primary
	No.	No.	h.p.	h.p.
1947.....	61	318,984	1,127,000	980,000
1948.....	61	330,790	1,202,000	1,054,000
1949.....	61	349,347	1,233,000	1,119,000
1950.....	64	368,026	1,296,000	1,182,000
1951.....	66	387,218	1,312,000	1,312,000
1952.....	67	400,779	1,620,000	1,462,000
1953.....	67	413,439	1,748,000	1,625,000
1954.....	67	430,687	1,700,000	1,687,000
1955.....	65*	451,821*	1,760,000	1,725,000
1956.....	65	475,504	2,061,000	1,955,000

16.—Distribution of Quebec Hydro Primary Power, by Customer Group, 1952-56

(Coincident with Montreal System peak)

System	1952	1953	1954	1955	1956
	h.p.	h.p.	h.p.	h.p.	h.p.
Montreal System.....	873,000	997,000	1,117,000	1,230,000	1,351,000
Beauharnois Local System.....	189,000	213,000	154,000	106,000	138,000
Beauharnois 25-cycle System (Ontario Hydro)...	250,000	250,000	250,000	250,000	250,000
Massena System.....	135,000	142,000*	126,000	99,000	86,000
Shawinigan System.....	15,000	23,000	40,000	40,000	110,000
Gatineau System.....	—	—	—	—	20,000
Totals.....	1,462,000	1,625,000	1,687,000	1,725,000	1,955,000

The Commission delivers some 30,000 h.p. on the south shore of the St. Lawrence River in the Gaspé area—power temporarily purchased from the Manicouagan Power Company and transmitted across the River through a 69-kv. submarine cable, over a distance of 34 miles. The Commission also purchases about 13,000 h.p. from Saguenay Transmission Company for delivery to mining companies in the Chibougamau area. It is completing the construction of a storage reservoir on the Toulmoustou River, a tributary of the Manicouagan River on the North Shore. The Lac Ste. Anne reservoir, as it will be called, will permit regulation and control of the flow of the Lower Manicouagan River.

Power plant construction recently completed and under way in Quebec is outlined at pp. 556-557.

Ontario.—The Hydro-Electric Power Commission of Ontario is a corporate entity, a self-sustaining public enterprise endowed with broad powers with respect to the supply of electricity throughout the Province of Ontario. Its authority is derived from an Act of the Provincial Legislature passed in 1906 to give effect to recommendations of earlier advisory commissions that the water powers of Ontario should be conserved and developed for the benefit of the people of the province. It now operates under the Power Commission Act (7 Edw. VII, c. 19) passed in 1907 as an amplification of the Act of 1906 and subsequently modified from time to time (R.S.O. 1950, c. 281, as amended). In addition to administering the enterprise over which it has direct control, the Commission exercises certain regulatory functions with respect to the province-wide group of municipal electrical utilities which it serves.

The Commission may have from three to six members, all of whom are appointed by the Lieutenant-Governor in Council. One commissioner must be, and a second commissioner may be, a member of the Executive Council of the Province of Ontario. In the conduct of the Commission's affairs, the commissioners are responsible for, and are the final authority in, establishing policy.

The basic principle governing the financial operations of the Commission and its associated municipal utilities is that electrical service is provided at cost. The Commission interprets cost as including payments for power purchased, charges for operating and maintaining the power systems, and related fixed charges. The fixed charges represent interest on debt, provisions for depreciation, allocations to reserves for contingencies and rate stabilization, and the further provision of a sinking fund reserve for retiring the Commission's capital debt. While the enterprise from its inception has been self-sustaining, the province guarantees the payment of principal and interest on all bonds issued by the Commission and held by the public. In addition, over a period of nearly forty years the province has materially assisted the development of agriculture by contributing half the capital cost of rural distribution facilities.

For the financial and administrative purposes of the Commission, the province is divided into two parts.* The roughly triangular part of the province lying south of Lake Nipissing and the French and Mattawa Rivers is served by the Southern Ontario System, a fully integrated power network comprising the Niagara, Eastern Ontario and Georgian Bay Divisions. The part lying to the north is served by the Northern Ontario Properties, comprising the Northeastern and Northwestern Divisions. The Southern Ontario System is a co-operative system primarily serving a group of 325 municipalities receiving power at cost under contracts established according to the provisions of the Power Commission Act. The Northern Ontario Properties are not a co-operative system but the power facilities of its Northwestern Division serve a group of eight municipal utilities at cost. Apart from the supply of power to these cost-contract customers, the Northern Ontario Properties are held and operated in trust for the Province of Ontario. Each of the two northern divisions is an integrated power system, the Northeastern Division being also interconnected with the Southern Ontario System. For purposes of administration the whole area served by the Commission is subdivided into nine regions,

* Information relating to the establishment of the original administrative systems and to the consolidations leading to the present operating set-up is given in the 1957-58 Year Book, p. 580.

seven in the south and two in the north, with regional offices located in nine major municipalities. At present the two northern regions coincide with the Northeastern and Northwestern Divisions.

The primary function of the enterprise is to provide electric power by generation or purchase, and through a province-wide network of transformation and transmission facilities, to deliver this power either for resale by the associated municipal utilities or for use by some 200 industrial customers served directly by the Commission. This aspect of operations represents about 90 p.c. of the Commission's energy sales. The municipal utilities, in their turn, administered by local commissions and functioning under the general supervision of the Provincial Commission as provided for in the Power Commission Act and the Public Utilities Act, own and operate their own distribution systems to serve ultimate customers in most cities and towns, in many villages, and in certain township areas. Energy sales representing the remaining 10 p.c. of the Commission's total are carried out through Commission ownership and operation of distribution facilities. These facilities provide retail service on behalf of the various townships to ultimate customers in the rural areas of the province, and similar service to customers in a limited number of municipalities supplied by what are known as "Local Systems". Since 1944 the Commission's rate structure applying to rural customers designated as farm, hamlet, commercial and summer service has been uniform throughout the province.

The growth of the Commission's physical and financial resources reflects the remarkable industrial and social development of the province. In 1914 the Commission purchased its first generating station, Big Chute on the Severn River. Later in the same year the first Commission-built generating station was placed in service at Wasdell Falls, also on the Severn River. This early program of purchase and construction of generating stations reached a climax in the great Queenston-Chippawa development, later renamed Sir Adam Beck-Niagara Generating Station No. 1 in honour of the first Chairman of the Commission. This station first delivered power in 1922 but four years later the Commission found it necessary to negotiate for the extensive purchase of power from large Quebec suppliers in order to satisfy Ontario's steadily growing power demands—demands that have continued to increase over the years.

The extensive construction program undertaken since the end of World War II has included the development of three stations on the Ottawa River with a combined capacity of 699,000 kw.; the construction of Sir Adam Beck-Niagara Generating Station No. 2 and its associated pumping-generating station on the Niagara River where 1,370,000 kw. of capacity have been installed; and the construction of Robert H. Saunders-St. Lawrence Generating Station on the St. Lawrence River. The St. Lawrence development is the last major hydraulic development in the Southern Ontario System. Initially placed in service in July 1958, it will be completed with an installed capacity of 820,000 kw. in 1960. During the same postwar period more than 400,000 kw. have been developed at nine hydro-electric sites in northern Ontario. Additional sites in the north are being developed, and others will be developed from time to time as the changing economic situation may require.

At the same time an aggressive program is being carried on for the construction of thermal-electric stations. This program, already well begun with the placing in service of large stations in Toronto and Windsor between 1951 and 1953, now includes a second large thermal-electric development, Lakeview Generating Station near Toronto, and the initial installation of a 100,000-kw. unit at a station in Fort William to be known as Thunder Bay Generating Station. Meanwhile the Richard L. Hearn Generating Station in Toronto is being expanded to three times its present 400,000-kw. capacity.

The Commission is also engaged, together with Atomic Energy of Canada Limited and the Canadian General Electric Company Limited, in the construction of the 20,000-kw. Nuclear Power Demonstration plant close by Des Joachims Generating Station in the Ottawa River Valley.

The power development program of Ontario Hydro as at Dec. 31, 1957 is given in Table 17. Hydro, thermal and nuclear power plant construction recently completed or under way in Ontario is outlined at pp. 557-558.

During 1957 the Commission's investment in fixed assets increased by \$197,612,118 and at the end of the year amounted to \$1,930,606,714. Accumulated depreciation provided on these assets was \$207,949,024. Total assets after deducting accumulated depreciation were \$2,254,503,479.

In 1957 a total of 351 municipal utilities purchased power from the Commission under cost or fixed-rate contracts for resale to their customers. These utilities had fixed assets amounting to \$327,925,974, against which they had provided \$68,975,083 in accumulated depreciation. Their total assets after deducting this accumulated depreciation were \$508,848,141, of which \$200,293,236 represented the equity acquired in the Commission's systems by the utilities operating under cost contracts.

17.—Power Development Program of The Hydro-Electric Power Commission of Ontario, as at Dec. 31, 1957

System and Development	In Service	Dependable Peak Capacity
		kw.
Southern Ontario System—		
DeCew Falls (extension)—Niagara Region.....	1947	57,000
Stewartville—Madawaska River.....	1948	63,000
Polymer Corporation (additional power purchase contract).....	1948	22,000
Emergency thermal-electric units.....	1949-50	1
Des Joachims—Ottawa River.....	1950-51	372,000
Chenau—Ottawa River.....	1950-51	117,000
Richard L. Hearn—Toronto.....	1951-53	400,000 ²
	(4 units)	800,000 ²
J. Clark Keith—Windsor.....	1951-53	264,000 ²
Otto Holden—Ottawa River.....	1952-53	210,000
Sir Adam Beck—Niagara No. 2—Niagara River.....	1954-57	1,050,000 ²
	(14 units)	150,000 ²
	(2 units)	85,000 ²
Pumping-generating station.....	1957	85,000 ²
	(3 units)	85,000 ²
Robert H. Saunders—St. Lawrence—St. Lawrence River.....	1958-60	820,000 ²
Nuclear Power Demonstration—near Des Joachims Generating Station.....	1961	20,000 ²
Lakeview—near Toronto.....	1961-62	600,000 ²
	(2 units)	
Northern Ontario Properties—		
Northeastern Division—		
George W. Rayner—Mississagi River.....	1950	47,000
Abitibi Canyon (extension)—Abitibi River.....	1959	45,000
	(1 unit)	
Northwestern Division—		
Ear Falls (extension)—English River.....	1948	6,000
Agassabon—Agassabon River.....	1948	44,000
Pine Portage—Nipigon River.....	1950-54	119,200
Manitou Falls—English River.....	1956	65,700
	(4 units)	
	(1 unit)	
Caribou Falls—English River.....	1958	87,500
Whitedog Falls—Winnipeg River.....	1958	54,000
Cameron Falls (extension)—Nipigon River.....	1958	19,100
Alexander (extension)—Nipigon River.....	1958	11,300
Silver Falls—Kaministiquia River.....	1959	45,500
Thunder Bay—Fort William.....	1961	100,000 ²
	(1 unit)	

¹ With the dismantling in early 1956 of the 20,000-kw. Scarborough Generating Station, only the Steel Company of Canada station in Hamilton remains of the emergency thermal-electric stations brought into service during the period January 1949 to April 1950.

² Installed capacity.

18.—Resources of The Hydro-Electric Power Commission of Ontario Generated and Purchased (All Systems), December 1956 and 1957

Year and System	Commission's Generating Stations				Power Purchased	
	Hydro-electric ¹		Thermal-electric ¹			
	kw.	h.p.	kw.	h.p.	kw.	h.p.
December 1956—						
Southern Ontario System.....	2,625,400	3,519,302	616,000	825,737	640,000	857,909
Northern Ontario Properties—						
Northeastern Division.....	297,400	398,660	1,300	1,743	1,200	1,609
Northwestern Division.....	368,100	493,432	—	—	2,700	3,619
Totals.....	3,290,900	4,411,394	617,300	827,480	643,900	863,137
December 1957—						
Southern Ontario System.....	2,967,400	3,977,748	616,000	825,737	591,000	792,225
Northern Ontario Properties—						
Northeastern Division.....	297,400	398,660	1,800	2,413	1,200	1,609
Northwestern Division.....	366,000	490,617	—	—	3,300	4,424
Totals.....	3,630,800	4,867,025	617,800	828,150	595,500	798,258

¹ Dependable peak capacity—the amount of power which resources can be expected to supply at the time of the system primary peak requirements, assuming that all units are available and that the supply of water is normal. This capacity will vary from time to time in accordance with changing conditions. The capacity of a source of purchased power is based on the terms of the purchase contract.

19.—Distribution of Power to Systems of The Hydro-Electric Power Commission of Ontario, Years Ended Dec. 31, 1953-57

NOTE.—Peak load generated and purchased, primary and secondary, in terms of generation.

System	1953	1954	1955	1956	1957
	kw.	kw.	kw.	kw.	kw.
Southern Ontario System.....	2,909,190	3,162,142	3,740,760	4,160,925	4,104,579
Northern Ontario Properties—					
Northeastern Division.....	309,100	332,706	366,458	391,442	459,117
Northwestern Division.....	262,356	283,896	329,122	356,737	406,880
Totals.....	3,480,646	3,778,744	4,436,340	4,909,104	4,970,576

20.—Growth of The Hydro-Electric Power Commission of Ontario, Years Ended Oct. 31, 1948-49 and Dec. 31, 1950-57

Year	Com- munities Served	Ultimate Customers Served Directly or Indirectly	Total Power Distributed ¹	Assets of Commission and Municipal Utilities
	No.	No.	kw.	\$
1948.....	970	1,004,127	1,887,317	708,708,622
1949.....	1,017	1,078,221	2,150,231	898,466,484
1950.....	1,132	1,187,117	2,714,565	1,080,200,039
1951.....	1,175	1,249,366	2,945,990	1,261,739,406
1952.....	1,244	1,317,249	3,330,286	1,442,511,467
1953.....	1,279	1,389,750	3,480,646	1,687,947,082
1954.....	1,301	1,467,034	3,778,744	1,883,311,970
1955.....	1,325	1,540,011	4,436,340	2,040,174,745
1956.....	1,340	1,612,049	4,909,104	2,293,492,487
1957.....	1,376	1,674,062	4,970,576	2,563,058,384

¹ Sum of the maximum 20-minute coincident peak loads (primary plus secondary) of each of the systems operated by the Commission, given in terms of net output of the sources of supply to each system for the last month of each fiscal year.

Manitoba.—The Manitoba Power Commission was established in 1919 for the purpose of distributing electric energy throughout the province, with the exception of the Metropolitan Winnipeg area. An agreement, signed in 1955 by the Manitoba Hydro-Electric Board, the City of Winnipeg, the Winnipeg Electric Company and The Manitoba Power Commission, provided for the acquisition by the Commission of the distribution properties of the Winnipeg Electric Company and of the City of Winnipeg Hydro Electric System in the suburban areas adjacent to the city. The transfer of these properties became effective Apr. 1, 1955. The utility currently operates under The Manitoba Power Commission Act (R.S.M. 1954, c. 203), as amended.

The Commission's supply of electric energy for distribution is purchased from the Manitoba Hydro-Electric Board at various points in or near Winnipeg. The Commission has gradually acquired virtually all the municipally owned and local privately owned distributing plants within the province and now supplies service from a widespread network of transmission lines. A program of rural electrification, started in the late 1930's and designed to bring hydro-electric power at uniform service rates to all rural centres with a population of 20 or over, has been completed and currently serves 524 centres. The Commission also serves 41,578 farms. The Commission took over the diesel generating plant and local distribution system at The Pas in northern Manitoba during 1958.

Plant additions recently completed or under way in Manitoba are outlined on p. 559.

Saskatchewan.—The Saskatchewan Power Corporation was established Feb. 1, 1949, and now operates under the provisions of the Power Corporation Act, 1950 (S.S. 1950, c. 10) as amended. It succeeded the Saskatchewan Power Commission which operated from Feb. 11, 1929 to Jan. 31, 1949. The original functions of the Corporation included the generation, transmission, distribution, sale and supply of hydro and steam electric energy. Since 1952 the Corporation has been authorized to produce or purchase, and to transmit, distribute, sell and supply natural or manufactured gas.

In 1957 the Corporation served 865 urban communities (with six or more customers) in retail sales, as well as the cities of Saskatoon, Swift Current and Weyburn, the town of Battleford, and the hamlet of Waskesiu in bulk sales. Activities of the Corporation are extended to the entire province with the exception of such cities as Regina, which owns and operates municipal plants and a distribution system, and Moose Jaw, where the local plant and distribution system is owned and operated by National Light and Power Company Limited.

At the end of 1957 the Corporation served 178,567 customers, 146,994 of whom were retail customers and 31,573 of whom were located in communities supplied with power through bulk sales. The retail customers included 102,249 urban customers and 44,745 customers classified as rural, predominantly farmers. During 1957 all customers absorbed 780,613,534 kwh. of which 742,983,567 kwh. were generated in Corporation plants and 37,629,967 kwh. were bought in bulk from Regina and from National Light and Power utilities. At the end of the year the Saskatchewan Government had invested a total of \$142,451,682 in Corporation electric and natural gas assets.

During 1957 the Corporation owned and operated three steam generating plants at Estevan, Prince Albert and Saskatoon, which supplied 80 p.c. of total system power requirements, and three gas and dual fuel plants at Kindersley, Swift Current and Unity, which supplied most of the remainder. Four small diesel plants (at Yorkton, Meadow Lake, Maple Creek and Hudson Bay) acted as standby plants and supplied less than 0.5 p.c. Total system capability at the end of 1957 was assessed at 235,720 kw. with 200,000 kw. located in steam plants, 30,000 kw. in gas and dual fuel installations and 5,720 kw. in diesel plants.

By the end of 1957 the Corporation owned and operated 53,800 miles of transmission and rural lines. Of the total, 6,500 miles of line were added in 1957, comprising 175 miles of 72,000-volt line, 75 miles of 25,000-volt line, and 6,250 miles of 14,400-volt farm line for rural electrification. Ninety miles of three-phase transmission line for service to oilfields

were also installed, and 250 miles of transmission line were rebuilt. New high-voltage transformer stations constructed had an installed capacity of 70,000 kva. and transformer capacity added to the subtransmission system totalled 12,225 kva.

Plant additions recently completed or under way in Saskatchewan are outlined at p. 559.

21.—Growth of the Saskatchewan Power Corporation, 1948-57

NOTE.—Figures for 1929-33 are given in the 1947 Year Book, p. 499; for 1934-46 in the 1950 edition, p. 578; and for 1947 in the 1957-58 edition, p. 586.

Year	Communities Served in Bulk and Retail Sales	Individual Meters in Communities Served	Power Distributed	Revenue
	No.	No.	kwh.	\$
1948.....	366	71,009	186,834,305	5,058,142
1949.....	420	78,389	202,135,947	5,629,372
1950.....	454	84,361	235,926,656	6,363,597
1951.....	535	93,923	278,826,919	7,159,876
1952.....	582	107,942	332,674,176	8,553,619
1953.....	631	122,676	398,211,673	10,363,752
1954.....	664	134,587	472,763,014	11,936,234
1955.....	742	149,134	556,776,981	13,350,177
1956.....	799	162,594	659,720,877	15,566,910
1957.....	870	178,567	780,613,534	18,152,460

Alberta.—Public ownership of power generating and distributing systems in Alberta is confined to certain urban municipalities. The regulatory authority over privately owned systems is the Board of Public Utility Commissioners which has jurisdiction over the distribution and sale of electricity. The Board has power to hold investigation upon complaint made either by a municipality or by a utility company and, following such investigation, may fix just and reasonable rates.

There are three private utility services in the province: Calgary Power Limited, Canadian Utilities Limited, and Northland Utilities Limited. A synopsis of these services is given below; plant additions recently completed or under way are outlined at p. 559.

Calgary Power Limited.—This Company has eleven hydro generating plants on the Bow River and its tributaries, west of Calgary, namely: Horseshoe Falls, Kananaskis Falls, Ghost River, Cascade, Barrier, Spray, Rundle, Three Sisters, Bears paw, Pocatererra, and Interlakes. The Company also operates a steam plant of 88,000 h.p. at Wabamun, west of Edmonton. At Dec. 31, 1957, the Company's total plant capacity was 397,450 h.p. All the hydro plants except Bears paw are operated by remote control from the Kananaskis Falls plant.

The Company has five reservoirs on the Bow River and its tributaries:—

Lake Minnewanka.....	180,000 acre-feet
Interlakes (Upper Kananaskis Lake).....	100,000 acre-feet
Pocatererra (Lower Kananaskis Lake).....	50,000 acre-feet
Spray Lakes.....	200,000 acre-feet
Ghost.....	74,000 acre-feet

An agreement with the City of Medicine Hat provides an additional 33,500 h.p. to the Company from the city's steam plant. Power from these plants is fed into a transmission network which supplies the entire electricity requirements of the cities of Calgary, Red Deer and Wetaskiwin, about 419 towns, villages and hamlets, and a substantial industrial load in central and southern Alberta. This transmission network is also connected with the municipal utilities of the cities of Edmonton and Lethbridge, Canadian Utilities Limited at Drumheller, Vegreville and Vermilion, and the East Kootenay Power Company in the Crowsnest Pass. A second 88,000-h.p. unit at the Wabamun steam plant was completed in 1958, bringing the Company's total plant capacity to 485,450 h.p.

The Company has about 4,500 miles of main transmission lines and 2,700 miles of distribution lines extending from Plamondon in the north, Milk River and Waterton in the south, and from Chauvin, Macklin (Sask.), Brooks and Bow Island in the east, to Nordegg, Banff and Crownest Pass in the west. The cities of Calgary and Red Deer, and the towns of Ponoka, Fort Macleod and Cardston are supplied on a wholesale basis, but all other points on the same system are supplied on a retail basis. At Dec. 31, 1957, electric pumping service was being supplied to over 3,200 oil wells, as well as service directly to other sectors of the oil industry, such as gathering stations, refineries and pipeline pumping. Service was also provided to several industrial plants near Edmonton.

An extensive farm electrification program is in progress in Alberta and at Dec. 31, 1957, the Company was serving 29,306 farms. Calgary Power constructs, operates and provides for the engineering of these co-operatives through a non-profit subsidiary (Farm Electric Services Limited), energy being supplied to the farm co-operative consumers at cost.

Canadian Utilities, Limited.—This Company supplies three areas in the province: the Grande Prairie District, outlined by Hythe, Spirit River, Lesser Slave Lake, Smith, Fox Creek and the city of Grande Prairie; the Vegreville District, outlined by Vermilion, Vegreville, Smoky Lake, Cold Lake and the city of Lloydminster; and the Drumheller District, outlined by Three Hills, Stettler, Forestburg, Consort, Empress, Cessford and the city of Drumheller. Three inter-connected plants at Battle River, Vermilion and Drumheller supply the Vegreville and Drumheller Districts. The Battle River plant has a 32,000-kw. coal-fired steam unit; the Vermilion plant has an 8,500-kw. gas turbine (the first gas-turbine powered generator in Canada) and 9,000 kw. in gas-fired steam equipment; and the Drumheller plant has 19,000 kw. in coal-fired steam equipment. Three inter-connected plants at Grande Prairie, Fairview and Sturgeon Lake supply the Grande Prairie District. The Grande Prairie plant has 5,700 kw. in diesel and gas-diesel equipment; at Fairview there is a 1,200-kw. natural gas unit, and at Sturgeon Lake there is a 10,000-kw. gas turbine which uses sour flare-gas from nearby oilfields as fuel. The town of Smith is served separately by a 110-kw. diesel unit.

There are tie lines with Calgary Power Limited at Vermilion, Vegreville and Drumheller; and with Northland Utilities Limited at Fairview and Valleyview. The Company serves over 39,000 customers, covering approximately 33,000 sq. miles, including 214 towns, villages and hamlets, and 129 rural electrification associations, through a network of approximately 3,800 miles of transmission and distribution lines, and 9,400 miles of rural electrification association lines.

Since 1949, rural electrification in the territory served has been extended to farmers on a co-operative basis whereby the rural electrification association systems are constructed and operated at cost for the farmers by the Company. Over 9,700 farmers are receiving electric power service. In addition, the Company operates a subsidiary, McMurray Light and Power Co. Limited, with a 525-kw. installation, serving 330 customers in the town of McMurray. In 1958, the Company acquired the Yukon Hydro Company Limited and the Yukon Electrical Company Limited, operating two installations consisting of 1,650 kw. in hydro units and 1,000 kw. in diesel units serving 1,500 customers in Whitehorse.

Northland Utilities Limited.—This Company, with headquarters at Edmonton, supplies electric service to 8,100 customers located in 29 communities. Diesel or gas-fueled generating plants are located in Jasper, Athabasca, High Prairie, Fort Vermilion, McLennan, Peace River, Fairview, Lac la Biche in Alberta and at Hay River in the Northwest Territories. A hydro-electric generating plant augments the supply at Jasper.

Through 125 miles of 69,000-volt transmission line and 250 miles of 24,000-volt transmission line, service is distributed to 27 additional communities. Also, approximately 1,200 farm customers are served by rural co-operative lines. A subsidiary, Uranium City Power Company Limited, generates and distributes electricity to 600 customers in Uranium City, Sask.

Northland Utilities supplies 3,500 customers with natural gas in 13 communities in northern Alberta—Fairview, Bluesky, Whitelaw, Brownvale, Berwyn, Grimshaw, Grande Prairie, Spirit River, Sexsmith, Rycroft, Woking, Clairmont, and Peace River. A subsidiary, Northland Utilities B.C. Limited, supplies gas to 2,500 customers in Dawson Creek and Pouce Coupe, B.C.

British Columbia.—The British Columbia Power Commission was appointed Apr. 17, 1945, under the provisions of the Provincial Electric Power Act. Operations were commenced in August of the same year with the acquisition of electrical properties in several parts of the province. The following statement shows the growth in the number of customers from 1949 to 1958:—

Year Ended Mar. 31—	Services Acquired	Services Installed	Total Services for Period	Cumulative Services to End of Period
	No.	No.	No.	No.
1949.....	831	3,318	4,149	31,619
1950.....	4,686	3,321	8,007	39,626
1951.....	473	4,075	4,548	44,174
1952.....	103	2,600	2,703	45,912
Sold June 1951.....	-325	-640	-965	
1953.....	—	3,597	3,597	49,509
1954.....	—	3,264	3,264	52,773
1955.....	523	3,261	3,784	56,557
1956.....	406	4,382	4,788	61,345
1957.....	4,676	5,525	10,201	69,574
Sold May 1956.....	-337	-1,635	-1,972	
1958.....	—	5,706	5,706	75,280
TOTALS.....	32,457	42,823	75,280	...

Continued expansion in generating capability, transmission and distribution plant, power requirements, installed services and revenues marked the year ended Mar. 31, 1958, capital expenditure reaching an all-time high of \$51,341,000. Revenue increased by 21.1 p.c. and expenditure by 37.9 p.c. of which some 13 p.c. was attributable to power purchased to conserve the Commission's own water services while a new reservoir was being filled, and 18 p.c. was attributable to an increase in fixed charges. The resulting operating surplus was \$102,756 (before provision for hydro deficiency). Details of construction recently completed or under way are given on pp. 559-560.

22.—Growth of the British Columbia Power Commission, Years Ended Mar. 31, 1954-58

Item	1954	1955	1956	1957	1958
Customers..... No.	52,773	56,577	61,345	69,574	75,280
Installed plant capacity..... kw.	174,255	176,866	211,366	284,435	324,735
Circuit Miles of Line—					
Transmission (high voltage).... miles	624	689	795	1,009	1,330
Distribution primaries..... "	2,995	3,301	3,781	4,147	4,650
Power Requirements—					
Generated..... kwh.	687,158,106	812,793,062	955,007,458	1,058,915,734	984,810,523
Purchased..... "	9,962,128	12,016,339	24,023,708	25,668,700	228,760,010
Totals, Power Requirements.. kwh.	697,120,234	824,809,401	979,031,166	1,084,584,434	1,213,570,533
Annual revenue..... \$	7,103,853	8,227,331	9,730,576	11,992,259	14,523,888
Capital Investment (plant in operation)—					
Generation plant..... \$	33,678,194	35,100,468	44,741,367	55,595,538	82,844,306
Transmission plant..... \$	11,686,982	13,204,511	15,289,408	20,639,658	24,678,764
Distribution and general plants. \$	15,957,640	18,095,779	21,791,399	25,783,408	30,031,507
Totals, Capital Investment (plant in operation)..... \$	61,322,816	66,400,758	81,822,174	102,018,604	137,554,577

Sources of power for the year ended Mar. 31, 1958, were as follows:—

<i>Source</i>	<i>Kwh.</i>	<i>P.C.</i>
Hydro-electric plant.....	848,537,430	69.9
Diesel-electric plant—		
Oil fuel.....	73,767,461	6.1
Gas fuel.....	56,386,632	4.6
Gas-turbine plant.....	6,119,000	0.5
Purchased.....	225,286,410	18.6
Inter-utility imports.....	3,473,600	0.3
TOTALS.....	1,213,570,533	100.0

The Northwest Territories and Yukon Territory.—The Northern Canada Power Commission was created by Act of Parliament in 1948 to bring electric power to points in the Northwest Territories where a need developed and where power could be provided on a self-sustaining basis. By legislation passed in 1950, the Act was extended to include Yukon Territory. The name of the Commission, formerly Northwest Territories Power Commission, was changed in 1956.

The Northern Canada Power Commission has authority to construct and operate power plants as required in a territory having an area of over 1,500,000 sq. miles. The Commission is continually investigating power needs in this large area and studying reports on hydro-electric power sites.

The Commission has a hydro-electric power development in operation on the Snare River about 94 miles northwest of Yellowknife, N.W.T., from which power has been supplied to the mines in the Yellowknife area since the autumn of 1948.

A diesel generating station and distribution system was put into operation at Fort Smith, N.W.T., in October 1950, and at Fort Simpson in October 1956 to supply the federal Departments of Northern Affairs and National Resources, Transport, National Defence (RCCS), Health and Welfare, and Public Works as well as the Royal Canadian Mounted Police and private commercial consumers and residents of the settlements.

A hydro-electric development on the Mayo River approximately six miles north of Mayo Landing, Y.T., completed in December 1952, delivers power to the mining developments in that area and to the settlement of Mayo Landing. Recently completed and projected construction is outlined at p. 561.

CHAPTER XIII.—FISHERIES AND FURS

CONSPECTUS

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NOTE.—The interpretation of the symbols used in the tables throughout the Year Book will be found facing p. 1 of this volume.

PART I.—FISHERIES

Section 1.—Canadian Commercial Fisheries Resources

Canada has the enviable position of being the country closest to some of the world's most prolific fishing grounds and as a consequence is a principal fish producer and exporter of fish products. Rich harvests are drawn from the Atlantic and Pacific Oceans and from the country's many freshwater lakes and rivers.

Canada's commercial fisheries resources, including a detailed account of the Atlantic, Pacific, freshwater and northern fisheries, are covered in the 1955 Year Book, pp. 578-590.

Section 2.—Governments and the Fisheries

The British North America Act gave the Federal Government full legislative jurisdiction for the coastal and the inland fisheries of Canada and under this Act laws are made for the protection, conservation and development of the fisheries throughout the country. However, the provinces have, by agreement, assumed administrative responsibilities in varying degree. Consequently, though all the regulations governing fishing are made by the Federal Government, the work of administering the fisheries (enforcing the different laws and regulations, inspecting fish products, issuing licences, etc.) is done without duplication of staff either by federal or by provincial officers, according to arrangement.

Specifically, all tidal or sea fisheries except those of the Province of Quebec are administered by the federal Department of Fisheries, and the freshwater or non-tidal fisheries with some exceptions are administered by the provincial departments. Quebec takes responsibility for all its fisheries including those in salt waters. Ontario, Manitoba, Saskatchewan and Alberta administer their freshwater species. In British Columbia, provincial government control extends to the freshwater forms and the Federal Government is responsible for marine and anadromous species. In Prince Edward Island, Nova Scotia, New Brunswick, Newfoundland and the Yukon and Northwest Territories, the Federal Government maintains complete control; administration of the fisheries of the National Park areas throughout Canada is the responsibility of the Canadian Wildlife Service, Department of Northern Affairs and National Resources (see pp. 22-23).

Subsection 1.—The Federal Government*

The work of the Federal Government in the conservation, development and general regulation of the nation's coastal and freshwater fisheries is performed by three agencies under the Minister of Fisheries:—

- (1) The Department of Fisheries proper with headquarters at Ottawa, Ont., and area offices under Area Directors at Vancouver, B.C., Winnipeg, Man., Halifax, N.S., and St. John's, Nfld.
- (2) The Fisheries Research Board of Canada with headquarters at Ottawa and eight stations across Canada.
- (3) The Fisheries Prices Support Board with headquarters at Ottawa.

A brief outline of the functions of agencies (1) and (3) is given in this Subsection followed by a special article giving in detail the work of the Fisheries Research Board (2).

The Department of Fisheries.—The chief responsibilities of the Department of Fisheries throughout Canada are, in brief: to conserve and develop Canada's primary fishery resources; to encourage the development of the fishing industry in the national economy; to inspect fish products, establish standards of quality and promote the optimum utilization of the resource; and to develop a proper public understanding of the resource and the industry.

The larger part of the staff of the Department is stationed in the field and is composed mainly of protection and inspection officers. The protection officers, including those on the Department's 83 patrol and protection vessels, are concerned with the enforcement of the conservation regulations under the Fisheries Act and other Acts designed to ensure a continuing maximum yield of fish and are also responsible for the inspection of fish products and processing plants under the Fish Inspection Act and relevant section of the Meat and Canned Foods Act.

A conservation program is carried out by the Conservation and Development Service of the Department. Protection officers enforce regulations pertaining to restricted areas, close seasons, limitations in location and types of gear, and also inspect spawning streams and keep them clear of obstructions. Biologists investigate such problems as pollution and water supply, and engineers construct fishways to enable fish to bypass obstructions of all kinds. Hatcheries are maintained to restock waters where the fisheries are under federal administration.

For the past few years a bounty has been paid for the killing of the parasite-carrying harbour seals along the Atlantic and Pacific Coasts at a rate of \$10 for adults and \$5 for young seals. Total payments for the year ended Mar. 31, 1959, amounted to \$34,891.

Inspection of fish and fish products to ensure a high standard of quality is carried out by the Inspection and Consumer Service, and fish inspection laboratories are maintained on the Atlantic and the Pacific Coasts and in Toronto and Winnipeg. A staff of home economists operates test kitchens in Ottawa, Toronto, Vancouver, Montreal, Halifax, Edmonton and Winnipeg, and conducts demonstrations and lectures on methods of preparing and cooking fish and fish products.

Through the medium of printed material, films, radio, television and exhibitions, the Information and Educational Service of the Department informs the public on the various aspects of the industry and the work of the fisheries service, with the object of developing a better understanding of the resource and those engaged in its exploitation. This Service works closely with the Conservation and Development Service in matters concerning the conservation of fisheries and with the Inspection and Consumer Service toward encouraging increased consumption of Canadian fish products in the United States and other markets.

The Economics Service engages in two related fields of responsibility: (1) to provide the government and the commercial fishing industry with current information, including statistical data, under the general heading of trade intelligence, and (2) to carry out studies and investigations in the primary fisheries and in the processing and distribution of fish

* Revised by the Department of Fisheries, Ottawa.

products. In the first field, the Service works in close co-operation with the Dominion Bureau of Statistics and the foreign trade branches of the Department of Trade and Commerce; in the second, there is similar collaboration with the Fisheries Research Board. In both, a necessary contribution is made to the formulation of policy for fisheries management, industrial development and market services.

In addition to these regular services the Department assists the commercial fishing industry in several special ways. To promote efficient primary fishing operations and improve the marketing of fishery products, assistance is provided for the construction of draggers and long-liners and for bait-freezing and storage facilities on the Atlantic Coast. For each new trawler built in Canada the owner is permitted a licence to operate a used trawler imported from either the United Kingdom or the United States and registered in Canada after payment of duty. An applicant wanting only one trawler may import a used one from the United Kingdom without having to lay down a new keel in Canada. This policy applies to ships purchased from any country entitled to most-favoured-nation treatment in accordance with Canada's obligations as a signatory of the General Agreement on Tariffs and Trade.

The Fishermen's Indemnity Plan affords low-cost protection from losses of boats and lobster traps through storms and other causes. The Plan, in operation since 1953, meets a long-standing need on the part of small-scale individual fishermen. Vessels valued at from \$250 to \$10,000 may be insured with payment of a premium of 1 p.c. of the appraised value per annum. Up to Mar. 31, 1959, a total of 5,131 fishing vessels with an appraised value of \$14,625,885 had been insured under the Plan. In response to considerable demand for a similar type of protection against unusual losses of fishing gear and equipment other than vessels, a first step was taken by the introduction of regulations giving a measure of compensation to lobster fishermen suffering abnormal losses of lobster traps, provided that a small premium has been paid by the fisherman. The premium rate varies in accordance with conditions in the different fishing areas of the Atlantic Provinces and Quebec but has been kept at a low figure. Indemnity is provided at about 50 p.c. of the value of the traps.

The Department also provides financial assistance to educational institutions agreeing to carry out specialized educational work among fishermen.

International Fisheries Conservation.—Conservation of the resources of the high seas can be effected only with regulations, and for this purpose international treaties have had to be made. Canada's obligations under such treaties with the United States and other countries are administered by the Department of Fisheries.

Canada and the United States have led the world in joint fisheries conservation development. Major examples of this joint effort are the International Pacific Halibut Convention, concerned with the preservation of the halibut stocks of the north Pacific and the Bering Sea, and the International Pacific Salmon Fisheries Convention, concerned with the conservation and development of the sockeye and pink salmon of the Fraser River. Investigations carried out under the auspices of Commissions appointed under these conventions, subsequent regulation and limitation of catches, and the construction of salmon fishways appear to have been successful in arresting and reversing an earlier trend towards depletion of these fisheries. Another example of restoring a depleted marine resource by international agreement and action is that of the fur seals of the Pribilof Islands in the Bering Sea. Under a treaty signed in 1911, known as the (North Pacific) Sealing Convention, pelagic sealing was prohibited while the animals were migrating to and from the Pribilofs where most of them breed. This treaty had been signed by the United States, Canada, Russia and Japan, and was one of the earliest conventions on resources of the sea. In 1941 Japan abrogated the treaty and the following year Canada and the United States signed a Provisional Fur Seal Agreement under which Canada, in return for abstaining from pelagic sealing, received 20 p.c. of the annual catch, which was supervised by the United States. A conference to re-negotiate the original convention

for the management of north Pacific fur seals was begun in Washington in November 1955, with representatives present from the four countries which had been signatory to the 1911 treaty. A new settlement was signed by the original four countries on Feb. 9, 1957.

In 1949 the Government of Canada became a signatory, along with nine other countries, to the International Northwest Atlantic Fisheries Convention which came into force in 1950. The Commission established under this Convention, with headquarters at Halifax, N.S., makes scientific investigations of the fishery resources of the northwest Atlantic. The Commission has no regulatory powers but can make recommendations to the respective governments regarding measures that may be necessary for maintaining the stocks of fish that support the international fisheries in the Convention area. Treaty signatories are: Canada, Denmark, Iceland, the United States, the United Kingdom, France, Italy, Norway, Portugal and the Federal Republic of Germany.

A step towards international action in regulating the high seas fisheries of the northern Pacific Ocean was achieved in December 1951 when Canada, the United States and Japan conferred at Tokyo. The resulting Convention was ratified by the three contracting governments and instruments of ratification were deposited at Tokyo in June 1953. The treaty is known as the International Convention for the High Seas Fisheries of the North Pacific Ocean and aims at providing the maximum sustained yield of the fishery resources of the northern Pacific non-territorial waters with each of the parties assuming obligations to encourage conservation measures. The Commission established under this Convention is studying the northern Pacific fisheries and will determine the application of the treaty principles and promote and co-ordinate the scientific studies necessary for ascertaining conservation programs.

The seventh, and latest, international fisheries agreement to which Canada is a signatory is the Great Lakes Fisheries Convention, which provides for joint action by Canada and the United States in Great Lakes fishery research and in a program for the control of the predator lamprey in these waters. This Convention came into force in October 1955. (See also p. 586.)

Canada is a member of the International Whaling Commission and is obligated to collect biological data on whales caught by Canadian vessels. Whaling operations are conducted off the coasts of Newfoundland and British Columbia.

The Fisheries Prices Support Board.—Under the Fisheries Prices Support Act, passed in 1944, this Board was set up in July 1947 to recommend to the Government price-support measures when severe price declines occur. The Board functions under the direction of the Minister of Fisheries and consists of a chairman, who is a senior officer of the Department of Fisheries, and five members chosen from private and co-operative firms in the industry, representative of the various fish-producing regions of Canada.

The Board has authority to buy quality fishery products under prescribed conditions and to dispose of them by sale or otherwise, or to pay to producers the difference between a price prescribed by the Board and the average price the product actually commands. The Board has no power to control prices nor has it any jurisdiction over operations in the fishing industry or the fish trade. Money necessary for dealings in fishery products is available to the Board from the Consolidated Revenue Fund to a maximum amount of \$25,000,000 but only on recommendation of the Federal Treasury Board and authorization of the Governor in Council.

The Board maintains a small staff for administrative activities. The work is closely integrated with that of the Department's Economics Service and, where possible, services required by the Board are carried out by Department personnel. The Board has carried out field surveys on market conditions and possibilities and on factors affecting the income of fishermen in the various producing areas. The financial position of fishermen is kept under continuous review and recommendations are made to the Government on the basis of the findings. Special investigations are made when serious problems arise in particular areas.

THE FISHERIES RESEARCH BOARD*

The Fisheries Research Board of Canada (established 1937) succeeded the Biological Board of Canada (established 1912) which in turn had succeeded the Board of Management of the Biological Stations (established 1898). Through successive names during the past sixty years, fisheries research in Canada has been developed by Boards composed mainly of university professors but tempered by the inclusion of government officials and representatives of the fishing industry. During 1958, the Board was composed of ten scientific members, six industry members and one member from the Department of Fisheries. Members are appointed for five-year terms and serve without pay or other emolument, being reimbursed only for expenses incurred in attending meetings or other Board business. A full-time paid chairman is appointed by the Governor General in Council.

The Board functions as the scientific arm of the Department of Fisheries but has the right of independent action under its Act and administers its own personnel and financial resources under the control of the Minister of Fisheries. The broad operations of the Board are designed to keep check on Canada's fishery resources in the oceans off its coast and in the freshwater areas not under the control of the provinces; to investigate the environment of various populations of fishes with a view to predicting their appearances and following their movements; and to study the causes of fish spoilage and suggest means of control. Much of the biological work of the Board is tied in closely with the work of international commissions concerned with fisheries, of which Canada is a participant. The Board's work on oceanography is closely associated with the needs of the Royal Canadian Navy and other government departments. Much of the technological work provides a basis on which the Department's Inspection Service can build regulations designed to ensure a wholesome supply of fish and fishery products to the consuming public in Canada and elsewhere.

In its biological work the Board operates out of stations situated in St. John's, Nfld., St. Andrews, N.B., Montreal, Que., London, Ont., and Nanaimo, B.C. Substations, field stations and field operations cover much of the inshore and offshore fishing areas of the oceans, including the Arctic, and some of the more productive freshwater areas.

ATLANTIC COAST

Off Canada's eastern shores one of the principal Board researches is on the stocks of groundfishes—those varieties which frequent the bottom areas and of which cod is the most common. These studies are carried out by workers from the stations at St. John's and St. Andrews, using vessels of various sizes from small inshore vessels of ten registered tons to the Board's newest 177-foot offshore research vessel, the *A. T. Cameron*, of about 1,000 registered tons. The work is of particular interest to the International Commission for the Northwest Atlantic Fisheries which is participated in by ten nations in addition to Canada, all of whom have an interest in the fisheries of the Northwest Atlantic and share in the research work or contribute statistics on the catch. The results of research into the effects of exploitation have led to the establishment of regulations for various areas which have been accepted by the nations participating in the Commission. These regulations are designed to assure a continued major supply from each area.

Of historical importance and still of considerable value is the salmon resource of the Atlantic. Through the efforts of a federal-provincial Salmon Co-ordinating Committee, all of the Atlantic Provinces and the Province of Quebec co-operate in a research program with the Board, and in a conservation program with the Conservation and Development Service of the federal Department of Fisheries. The objectives of these programs are to maintain and improve the stocks of salmon using the various river systems that still offer favourable environment for propagation, and to help offset the effects of civilization and industry which change the environment to the detriment of the salmon stocks.

* Prepared by Dr. J. L. Kask, Chairman of the Fisheries Research Board of Canada, Ottawa.

The Board's studies of lobsters provide the basis for regulations on size limits and open seasons to allow as intensive an exploitation of this highly valuable resource as is consistent with maintaining or improving the available stocks. These studies are centred at the Board's Biological Station at St. Andrews, and field work is carried out in all the lobster areas of the Maritime Provinces.

Of importance as bait and of significantly present and potential value as food are the stocks of herring whose appearance and availability in specified areas cannot yet be foretold with any degree of confidence. The exploratory work under a federal-provincial Atlantic Herring Investigation Committee from 1944 to 1950* has been continued by the Board, though with somewhat less intensity. Supplies in the Gulf of St. Lawrence have been found but their exploitation would seem to depend on improved methods of locating commercial schools of these fish and on better means of capture than those now used. The stocks of small herring (sardines) in the Bay of Fundy area seem to appear fairly consistently in adequate numbers to maintain an active canning industry. The possible effect of a proposed tidal-power project in Passamaquoddy Bay is being studied by the Board and its United States counterparts.

When the Board started the study of oysters in Prince Edward Island in 1930 the stocks were at low ebb because of an endemic disease. In co-operation with the Department of Fisheries the Board's workers developed oyster farming methods to produce a disease-resistant strain as a basis for licensed farming. This strain has been used in recent years to restock areas in Nova Scotia and New Brunswick where oyster populations had been practically wiped out by the disease which had been prevalent in Prince Edward Island years before. Other bivalves under study include scallops, clams and quahaugs. The Board co-operates with the Department of National Health and Welfare by keeping close check on areas of production for any signs of incidence of toxicity in shellfish so that these areas can be closed to fishing until healthy conditions return.

Other studies in the Atlantic area include trout production in fertilized lakes, production of smelts, seaweeds and plankton, and various *ad hoc* projects as a service to the Department of Fisheries or the fishing industry.

ARCTIC AREAS

The Board's work in the Arctic areas is concerned mainly with discovering the extent of the aquatic resources there and recommending to the Government developments that may be undertaken by and for the benefit of the native populations in these areas. Since 1948 the Board's specially designed 47-foot Arctic research vessel, *Calanus*, which is fitted for various methods of fishing, has been carrying out exploratory fishing in most of the areas of the Eastern Arctic where there are Eskimo populations. Investigations of the Beaufort Sea and Western Arctic are conducted from smaller vessels. The studies of the aquatic resources include the life histories of walrus, seals and other marine mammals found in the Arctic and in the coastal areas off the Atlantic Provinces. Investigations into the environment of these resources include studies of plankton and hydrography.

FRESHWATER AREAS

The effect of a harmless parasite sometimes found in whitefish imported into the United States gave rise to an intensive study aimed at the eradication or control of this parasite. Investigations of many lakes uncovered infestation-free areas and various degrees of prevalence. Work centred at Heming Lake in Manitoba, a typically infested lake, and a study of the life history of the parasite showed that the pike was the host to the adult parasite and that reduction in the pike population could reduce the incidence of the parasite.

A survey of Great Slave Lake in 1944 and 1945 showed unexploited commercial supplies of lake trout and whitefish. This lake—the fifth largest in North America—was opened up to commercial fishing in 1946 on a controlled quota basis. The annual quota, periodically

* Fisheries Research Board Bulletin No. 111.

raised by the Department, now amounts to 9,000,000 lb. of lake trout and whitefish combined. Continual checks show that no serious decline in the available fish populations has been caused over the years by commercial fishing. Similar studies have been made on Lake Winnipeg since 1948 and show, for comparison, the detrimental effects of uncontrolled fishing on a long-exploited lake.

In the Great Lakes area the Board has been involved mostly with the control, if not the elimination, of the sea lamprey populations. From 1954 to 1956 this work was done under the direction of a federal-provincial Great Lakes Fishery Research Committee and since that time under contract with the Great Lakes Fishery Commission which was set up in 1956 under a Convention between Canada and the United States. The main attacks on the lamprey, which prey on the populations of trout in these lakes, have been in Lake Michigan by the United States and in Lake Superior by the United States and Canada. The battle is being fought by means of electrical and other barriers to the ascent of the adult sea lamprey into streams to spawn and by the use of a specific lampricide on the larval and juvenile forms of this predator.

General biological research on the lamprey of the Great Lakes area is part of the Sea Lamprey Investigation. Work on other species is carried out by agreement and co-operation with the fisheries research workers of the Province of Ontario.

PACIFIC COAST

Of prime importance to the Pacific Coast and an important item in the fisheries economy of Canada is the salmon resource which uses Canadian West Coast streams for propagation. From its station at Nanaimo on Vancouver Island the Board carries out a far-flung program covering studies on the life histories of the five principal species of salmon—from conditions in the streams where they are spawned through their migrations in freshwater and out to sea, their life in the broad reaches of the Pacific Ocean and their return to their native streams to spawn a new generation. For sockeye and pink salmon, the Board's work is done in co-operation with the International Pacific Salmon Fisheries Commission which has jurisdiction for these species in the Fraser River system and in the Convention (with the United States) areas off the mouth of the Fraser River.

The Board is also concerned with a determination of the conditions in the freshwater environment which will allow the best possible use of these areas for the production of fry and of sea-going smolts; recommendations for controls over fishing for incoming spawning fish to allow the escapement to the spawning areas of enough fish to make full use of the areas; and the effects of obstacles to upriver movement of adults and means to guide migrating smolts safely past dams and other water falling towards the sea.

The Pacific Coast herring fishery is also of importance. The Board's studies of this fishery give the basis for prediction and the determination of annual quotas to maintain maximum long-term yield. Much of the work is exploratory and consists of surveying spawning areas to estimate abundance of the resulting year-classes. Tagging of thousands of individual fish and the recovery of these tags in the fishery the following year have confirmed the substantial independence of the various stocks of herring in different areas along the coast.

Studies are also made of the more important species which make up the groundfish fishery, as a basis for regulation to maintain the yield at its optimum long-term level. Studies are also carried out on shellfish, crabs, whales and sea-lions to provide information on which to base recommendations of the best uses of these species.

One of the main purposes for the establishment of the International North Pacific Fisheries Commission (Canada, United States, Japan) in 1951 was to protect the fisheries of one country from unacceptable exploitation by the others. The fisheries were salmon, halibut and herring, each of which was claimed to be under maximum exploitation in relation to the conservation of a continuing resource. The Board has put a great deal of effort into gathering together information to show the status of each of these species in the Canadian fisheries.

Of growing interest are the results of population growth and industrial development in polluting waters used by fish and shellfish. Studies on pollution are aimed at establishing the kinds of controls that will reduce the effects of pollution to negligible proportions.

OCEANOGRAPHY

Under an interdepartmental Joint Committee on Oceanography composed of representatives of the Fisheries Research Board, the Royal Canadian Navy, the Defence Research Board, the National Research Council, the Hydrographic Service of the Department of Mines and Technical Surveys and the Meteorological Service of the Department of Transport, co-ordination has been given to the national effort in oceanography. By agreement with the Committee, the Fisheries Research Board does basic physical and chemical oceanography of interest to all agencies of the Federal Government and carries out programs of special concern to the Navy and the Department of Fisheries.

For its own purposes the Board does biological oceanography along with the physical and chemical studies conducted by its two oceanographic groups, one on each coast. This information is necessary to understand the environment of various fishes and is obtained during exploratory fishing in marine and freshwater areas.

TECHNOLOGICAL INVESTIGATIONS

Research into the composition, preservation, processing and distribution of fish and fishery products is the responsibility of the Board's technological stations situated at Halifax, N.S., Grande Rivière, Que., and Vancouver, B.C.; smaller units doing more applied work are located at St. John's, Nfld., and London, Ont.

The problem of perhaps greatest importance is spoilage. From the time the fish loses its freedom in the water, factors bringing about spoilage start to operate and soon the fish will be unfit for food unless counter measures are taken. Such counter measures and their effectiveness are the subjects of much of the research work in the Board's technological stations. Attacks on this problem involve studies of the effects of antibiotics in varying concentrations and in various forms on slowing down spoilage and of the effects of all other types of preservatives; studies of the use of ice and the use of refrigerated sea water to lower the temperature of the fish almost to freezing as a means of lengthening the 'fresh' life; studies of the protein of the fish to find what changes take place during storage; studies of spoilage bacteria and its growth, an understanding of which might be the basis of a more effective attack on spoilage problems.

The time-honoured methods of preservation by salting, smoking, freezing and canning are given attention as problems arise so that these methods will produce the products needed for the markets that have been developed for them. No method yet devised will hold fish in unchanging condition so that improvements in techniques must be developed from time to time to reduce or control the changes taking place in the products processed for comparatively long-term preservation.

Of economic interest and potentially high value is the Board's work on by-products. The Board's scientists have been working on such projects as breaking down various marine oils into more valuable products, recovering proteins from cuttings and waste in the form of special meals to bolster human and animal diets, producing condensed fish solubles from the stick water pressed out in the production of meals to recover valuable nutritional materials to fortify animal feeds, and studying the make-up of all kinds of waste in an effort to find usable constituents that might be recovered economically enough to add value to the fisheries.

To encourage the application of the results of its work, the Board maintains technical services at each of its technological stations and units. The fish industry makes considerable use of these services when planning new plants or when making changes in or developing new processing techniques. The Board also supplies consultative services to the Department's Industrial Development Service in demonstrations of the commercial application of new or improved methods, processes or procedures.

SCHOLARSHIPS

The Board provides funds for a limited number of scholarships in fields of study of interest to the Board. These funds are administered by the Awards Services of the National Research Council.

Subsection 2.—The Provincial Governments*

An outline of the work undertaken by each of the provincial governments in connection with administration of commercial and game fisheries is given in the following paragraphs.

Newfoundland.—The provincial Department of Fisheries in conjunction with the Newfoundland Fisheries Development Authority, a Crown corporation established in 1953, is concerned mainly with improvement and development of fishing and production methods. It conducts experiments and demonstrations in long-lining, Danish seining and otter trawling, the construction of multi-purpose fishing craft, and in the exploration of potential fishing grounds.

Loans have been made to processors for the establishment and expansion of fish processing plants and for deepsea draggers and also to fishermen for the construction and purchase of modern vessels capable of a greater variety of fishing operations and larger production. Fishermen receive further aid through bounty payments at the rate of \$160 per ton for newly constructed vessels under the Fishing Ships (Bounties) Act of 1955.

In May 1958 the Government of Newfoundland passed the Fishing and Coastal Vessels Rebuilding and Repairs (Bounties) Act, enabling the government to assist financially in maintaining and prolonging the life of the existing fleet.

Other services include the operation of fisheries training schools in navigation and engineering, advisory services to fishermen on gear and equipment, industrial research, plant construction, plant engineering and economics, assistance to fishermen's unions, weather and ice reports, and search and rescue. A Fisheries Salt Act was passed in 1957 to help implement more rigid control over the use of fisheries salt.

The inland waters of Newfoundland, though they provide excellent sport fishing, are not commercially exploited. The lakes and ponds remain under the authority of the Natural Resources Branch of the provincial Department of Mines and Resources, but the rivers and streams—the resort of migratory fish such as salmon and sea trout—are under federal control. Matters of conservation and guardianship are therefore mainly or wholly the concern of the federal Department of Fisheries although, to the extent to which they affect the ponds and lakes, they are subject to provincial or joint action.

Prince Edward Island.—The sea and inland fisheries of Prince Edward Island are administered by the Federal Government. The provincial Department of Fisheries supplements federal activity, which is mainly concerned with inspection and conservation, and

* Prepared by the respective provincial departments responsible for fisheries administration.

devotes special attention to the development of the fisheries industry. The Department provides technical assistance to fishermen and to the industry and, through the Fishermen's Loan Board, gives financial assistance for the purchase of boats and engines. Loans of up to 50 p.c. of the cost of such equipment are available.

The streams of the province, mostly spring-fed and fairly constant in flow, provide very favourable conditions for the reproduction of game fish, of which speckled trout is the most important variety. Investigations toward the problem of increasing the production of trout of a size attractive to anglers are being conducted by the Fisheries Research Board of Canada at sites provided by the provincial Department. The necessary dams and the fish required for experimental purposes are provided by the federal Department. Unfortunately many of the fertile and highly productive ponds of the province have disappeared, and the provincial Department is actively concerned with damming and restoring these for the enjoyment of the public.

Nova Scotia.—In Nova Scotia the Federal Government supplements the province's comprehensive legislative jurisdiction by actual supervision, enforcement and administration of the laws and policies relating to both marine and inland fisheries. The provincial government, however, recognizes that several fields exist in which provincial initiative is necessary and appropriate, having regard for the importance of the fishery resources in terms of employment, industry, trade and recreation.

Provincial interests in the commercial fisheries are the concern of the Fisheries Division of the Department of Trade and Industry. The Fishermen's Loan Board and the Industrial Loan Board are administered within this Department; the first makes loans to fishermen for the purchase of new and improved boats and engines, and the second makes loans for the construction or improvement of fish processing plants. Technical advice and direction is provided for applicants for loans and inspection and survey services to the Loan Boards. The engineering staff gives similar services to others in the fish industry who may not require financial assistance, and to dependent or collateral businesses such as the boat-building industry. A staff of instructors conduct training courses in the care and maintenance of marine engines, in basic navigation, and in the design, construction and maintenance of nets and other fishing gear. This program receives substantial assistance from the Vocational Training Branch of the federal Department of Labour. The actual on-course instruction is supplemented frequently by assistance to individuals or small groups coping with particular problems and by actual demonstration or loans of untried types or designs of fishing gear.

The Fisheries Division administers, in co-operation with the federal Departments of Fisheries and National Health and Welfare, the Nova Scotia Fisheries Act, which requires fish processors and wholesale buyers of fish from fishermen to obtain licences. The purpose of the Act is to improve the standards of sanitation, plant construction and operation in the local fish industry and trade. The Division also performs a variety of liaison services between individuals or local groups and the several departments of the provincial and federal governments to which any problem or proposal may have to be referred.

The province's inland fisheries interests are under the observation of a Director of Conservation in the Department of Lands and Forests. Work in this field is carried on in conjunction with the Nova Scotia Research Foundation which has collaborated with the Fisheries Research Board of Canada in a program of research into the Atlantic salmon populations by providing some scientific personnel and by conducting certain investigations on the La Have and Margaree Rivers. Experiments in the fertilization of lakes have been

undertaken to increase trout productivity and in partial poisoning to reduce the numbers of coarse fish competing with trout for the available food supply. Fundamental investigations into the fish-supporting capacities of lakes are currently active and include studies of the source and regeneration of such nutrients as phosphorous and nitrogen.

New Brunswick.—The commercial fisheries, both tidal and inland, of New Brunswick are under the jurisdiction of the Federal Government and angling is primarily the responsibility of the provincial Department of Lands and Mines. This Department is also responsible for the administration of oyster fisheries in the province although investigations on the oyster fisheries in Gloucester and Northumberland Counties have recently been transferred to the federal Department of Fisheries.

To supplement the activities of the federal Department of Fisheries, the Provincial Government created, in 1946, a Fisheries Branch and a Fishermen's Loan Board within its Department of Industry and Development. Since its inception, the Fishermen's Loan Board of New Brunswick has lent over \$3,500,000 to fishermen for the purpose of modernizing fishing methods. Small loans are made available to inshore fishermen for the purchase of new lobster boats and engines, and larger amounts to offshore fishermen for the building and equipping of modern groundfish draggers and long-liners. During the past decade or so, a fleet of 75 draggers has been built by the Fishermen's Loan Board with the technical assistance of the Fisheries Branch. New designs have been introduced over this period but a pattern of standardization has been followed in order to maintain building and maintenance costs at the lowest possible level. Educational services are made available by the Fisheries Branch to dragger operators during the winter season including a series of lectures on practical navigation, care and maintenance of diesel engines, marine biology, economics, marine insurance and the proper handling of fish aboard fishing vessels. To broaden this school program, plans are under way to create a school of fisheries to be administered jointly by the Vocational Branch of the Department of Education and a regional high school situated in a fishing centre.

In close co-operation with the Industrial Development Service of the federal Department of Fisheries, experimental projects are being undertaken every year by the Fisheries Branch with a view to introducing modern fishing methods and equipment.

To co-ordinate the efforts of the five Atlantic Provinces and the Federal Government in the promotion of the East Coast fisheries, the federal Department of Fisheries recently formed a federal-provincial Atlantic Fisheries Committee of which the Province of New Brunswick is a member.

Quebec.—The Department of Game and Fisheries administers both the sea and the inland fisheries of Quebec. The Department has two divisions—the Division of Maritime Fisheries and the Division of Fish and Game, the latter being charged with the administration of the inland fisheries.

Sea Fisheries.—Quebec is the only province administering its own sea fisheries. For the benefit of producers and fishermen, it provides a system of cold storage plants for the freezing and preservation of fish. Since the erection of the first plant in 1932, the network has grown to 58 plants with a daily freezing capacity of 445 tons of fish and a storage capacity of 20,000,000 lb. These cold storage plants also perform a valuable service to fishermen by providing them with frozen bait and 100 tons of ice per 24 hours. In addition, the Department owns and maintains 115 snow houses (where fish may be chilled before being sent to storage or filleting plants), 40 culling sheds, and two artificial drying plants where 6,000,000 lb. of fish may be processed annually.

The Department maintains a staff of inspectors, fish wardens, technicians and technologists to administer fishery legislation and to assist in the application of new techniques for the expansion of the industry. The central administration is located at Quebec City with an office at Gaspé for the administration of cold storage plants. Fish inspection is carried out under federal and provincial legislation by provincial inspectors who are vested with additional powers for export purposes by the Federal Government.

Educational work among the fishermen and producers is also conducted by the Department to teach the latest methods of fish preparation and of obtaining high-quality products. The new Fisheries Training School at Grande Rivière gives to fishermen of all ages the opportunity of taking free theoretical and practical courses in fishery, and the Superior School of Fisheries at Ste. Anne de la Pocatière conducts a four-year course for technologists. Encouragement is given to the co-operative associations of fishermen through the Social Economic Service of the latter institution. Under a maritime credit system fishermen are able to obtain loans from credit unions for the purchase of boats and gear. The Department adheres to the federal-provincial agreement on the building of dragners and long-liners and assumes the building costs on a five-year capital refunding plan.

The fish trade is being promoted by advertising campaigns in newspapers and magazines, cooking demonstrations, educational films and free distribution of fish recipes and publicity leaflets as well as by exhibits at fairs.

Hydrographical research in the Gulf of St. Lawrence, studies on the location of new fishing grounds, and experiments on seafish biology are conducted by a Marine Biological Station at Grande Rivière and two substations on the North Shore and Magdalen Islands. This research has brought into use new types of fishing vessels recommended to fishermen. The Department also operates a Limnological Laboratory at Quebec City for studying the biology of the freshwater fish of the St. Lawrence River and its tributaries.

Inland Fisheries.—The Division of Fish and Game exercises jurisdiction over the inland waters. Three hundred full-time wardens are employed and licences are required for sport fishing and hunting, the revenue from which is applied to the improvement of fishing and hunting conditions. Five hatcheries are maintained at strategic points throughout the province: St. Faustin, Lachine, Lac Lyster, Tadoussac and Gaspé. These establishments distribute speckled trout, Atlantic salmon and grey trout fry, maskinonge fingerlings and older fish.

The Department administers five parks and eight reserves in all of which, except for Mount Orford Park, excellent fishing may be found. The Gaspesian and Laurentide Parks are renowned for their trout fishing. The Chibougamau Reserve and the La Vérendrye Park, situated on the height of land, are eminently suited to canoe trips in search of pickerel, pike and grey or speckled trout. Five salmon streams, all under the jurisdiction of the Fish and Game Division, are open to anglers: the Romaine River, the St. Jean River, the Petite Cascapédia River, the Matane River and the Port Daniel River. The Department co-operates with sportsmen through a joint committee composed of departmental officials and the directors of the larger fish and game associations. The committee studies the maintenance of satisfactory fishing and hunting conditions and other problems arising out of the ever-changing conditions of modern life and their effect on the wildlife of the province.

The Biological Bureau of the province, located at the University of Montreal, and the piscicultural laboratory at Quebec City, with its two stations for practical work located in the Mont Tremblant and Laurentide Parks, study problems connected with marine life.

Ontario.—The fishery resources of Ontario are administered by the Division of Fish and Wildlife, Department of Lands and Forests. The Division operates under the authority of the federal Fisheries Act, the Special Fishery Regulations for the Province of Ontario, the Ontario Game and Fisheries Act and the Regulations connected therewith.

Commercial Fishing.—The commercial fishing industry in Ontario provides employment for about 3,200 persons directly and for many more indirectly, and produces an annual yield of from 35,000,000 lb. to 45,000,000 lb. of fish. In 1956 an all-time high catch of about 60,000,000 lb. was recorded. The industry, although widely scattered throughout the province, is centred chiefly on the Great Lakes, particularly Lake Erie which is noted for its blue and yellow pickerel, white bass, whitefish and perch. Other principal species of fish taken commercially are lake trout, herring or cisco, sturgeon, pike, catfish (including bullheads), carp and suckers. Over one hundred smaller inland lakes are commercially fished, principally those in the northwestern portion of the province, and careful management of these lakes is essential to ensure continued production.

The types of fishing boats in use vary from small craft to 60-foot tugs, and types of gear vary from the most common gill-nets, pound-nets and trap-nets, seines and baited hooks to small hand-operated seines and dip-nets. Fishing methods and equipment have been rapidly modernized during the past few years. Diesel-driven steel-hull tugs have replaced steam-driven wooden tugs. Such aids as depth sounding devices, radar, ship-to-shore and ship-to-ship communications have been developed and a better knowledge of the fish and their movements has been established from biological research findings. Modern icing facilities and transportation methods are in use as well as new types of fishing gear.

Ontario fishermen are largely organized into various local associations. These associations are, in turn, represented by the Ontario Council of Commercial Fisheries and by the Lake Erie Fisheries Council, who perform an important service to the industry. The Ontario Fishermen's Co-operative and its member groups are of interest also in the organization of the fishery in the province.

Angling.—In Ontario with its estimated freshwater area of 68,490 sq. miles, angling constitutes one of the most widely distributed recreations. There are 144 different kinds of fish in the province including such species as lake, speckled, rainbow and brown trout, yellow pickerel, black bass, pike and maskinonge. It is difficult to measure the value of sport fishing to the province but the annual revenue from the sale of angling licences alone (mainly to non-residents, as residents require a licence for Provincial Parks only) is in the neighbourhood of \$2,500,000. To maintain Ontario's reputation for excellent game fishing the wise management of this renewable resource is a prime factor, and a well-trained field staff of conservation officers and biologists is located in the 22 forestry districts of the province.

Provincial Hatcheries.—Ontario operates 21 hatcheries and rearing stations and excellent results have been produced in the culture and distribution of the various species of commercial and game fish. Millions of fry, fingerlings and yearlings comprising whitefish, herring, pickerel, trout (lake, speckled, brown and Kamloops), maskinonge, bass and ouananiche are distributed annually. Three of the finest trout-rearing stations on this Continent are located in Ontario at Dorion near Port Arthur, at Sault Ste. Marie, and at Hill Lake near Englehart.

Fisheries Research.—Research in Ontario is carried on in the Great Lakes where commercial fisheries problems are being investigated and in inland waters where game fish populations are being studied. At the South Bay Mouth Station, Manitoulin Island,

Wheatley on Lake Erie, and Glenora on the Bay of Quinte on Lake Ontario, fishery biological stations are operated for the investigation and study of the commercial and sports fisheries on the respective Great Lakes. In Algonquin Park a careful record of angling quality is kept for a number of test lakes to allow evaluation of management techniques. Certain of the more barren lakes are being treated with fertilizer to determine the effects of microscopic organisms and fish.

The habits of lake trout and eastern brook or speckled trout are being studied to provide additional information on the proper management of these species. Many authorities believe the increase in the sea lamprey and the drastic drop in production of lake trout in recent years in Lake Huron (including Georgian Bay, North Channel and Lake Superior) to be directly related and this has led to an International Agreement between Canada and the United States and the establishment of the Great Lakes Fisheries Research Commission for the co-ordination and direction of the fisheries research program, particularly as it is applied to the control of the sea lamprey menace. Co-operation is maintained by the exchange of biological findings and, where practicable and feasible, the results are applied in an attempt to control this menace. (*See also p. 586.*)

Established fish-management principles are applied by biologists in the various forestry districts. The program includes such projects as biological surveys and investigations, bass harvesting, coarse fish removal, creel census studies, fish tagging and other related subjects.

Manitoba.—For the year ended Mar. 31, 1957, the freshwater commercial fisheries of Manitoba, made possible by nearly 39,255 sq. miles of lakes and streams in the province, yielded a catch of 30,395,800 lb. of choice edible fish, the market value of which was \$5,390,267. Fifteen varieties of fish make up the commercial catch, the most important, according to value, being pickerel, whitefish, sauger, pike and tullibee. In addition to commercial production, sport fishing yielded a considerable poundage.

The fisheries of Manitoba provide a rich harvest of protein food, about 90 p.c. of which is sold to United States dealers. Actual fishing operations employ about 5,400 men and at least a similar number find total or partial employment in the many industries dependent wholly or in part on the fisheries.

Since the commercial fishing industry began in Manitoba about 75 years ago, equipment has improved and methods of handling fish have changed to meet modern demands for a packaged product ready to serve or convenient to cook. Oars and sail have given way to high-powered internal combustion engines and boats that can lift nets in almost any weather. Coarse linen gill-nets have also disappeared in favour of the finest of nylon gill-netting. In marketing, whole fish packed in ice is being replaced, in part at least, with a packaged filleted product, or pre-cooked items. Throughout the fishing industry there is a keen appreciation of the necessity of producing a first-quality product, convenient to prepare, attractively packaged, and appealing to the eye, palate and the cook. The city of Winnipeg has become one of the largest freshwater fish marketing centres on the Continent and the provincial Department of Mines and Natural Resources maintains a city patrol service to ensure, as far as is possible, that only fish of first quality is marketed or offered to the consumer. This patrol operates in co-operation with officials of the federal Department of Fisheries. To regulate the fishery operation and to ensure that seasons and limits are observed, the Fisheries Branch of the provincial Department operates a fleet of patrol boats in summer and a number of snowmobiles in winter.

Three fish hatcheries are engaged in the artificial propagation of pickerel and whitefish on commercial fishing lakes and a trout hatchery provides a supply of lake, rainbow and speckled trout for sport fishing waters at the northern extremity of West Hawk Lake in Whiteshell Provincial Park.

Saskatchewan.—Approximately 32,000 sq. miles of water area provide the basis for the fishery industry of Saskatchewan. Whereas the commercial industry is concentrated in the northern half of the province, the water bodies in the south are important to the tremendous recreational development now taking place. The Fisheries Branch of the Department of Natural Resources, with head office at Prince Albert, is responsible for the administration of this resource.

The commercial fishing industry in 1957-58 enjoyed one of its most productive years with approximately 11,000,000 lb. taken from 132 lakes. The principal species were whitefish, lake trout, pickerel, sturgeon and cisco. The 11 filleting plants, one of which is owned by a fishermen's co-operative, have done much to stabilize the commercial fishing industry by preparing for market a high-quality, ready-to-cook product.

During the year there were 94 licences issued to owners of fur farms who used about 5,500,000 lb. of coarse fish (cisco, burbot, mullet). Also 935 domestic fishing licences were issued and 1,911 free Indian permits. The recreational value of the fisheries has been increasing significantly. In 1958 the total number of angling licences sold was 107,322, of which 100,000 were purchased by Saskatchewan residents.

The expansion of commercial and recreational fishing emphasizes the importance of the research program started ten years ago, which was planned to cover the needs of the management of this resource for both fundamental and applied information. Its three phases include (1) research projects—consisting of the basic productivity of larger lakes and streams and the ecological characteristics of the main species of fish; (2) experimental projects—establishment of rainbow trout and largemouth bass in various southern reservoirs; and (3) management procedures—creel census studies and pollution investigations.

New quarters have been provided recently for the Fisheries Laboratory in the Saskatchewan Research Council Building at the University of Saskatchewan. There are five permanent biologists on staff and usually 12 university students are employed each summer on biological surveys. A new fish cultural station has been completed at Fort Qu'Appelle for the hatching of pickerel, rainbow, brown and lake trout and rearing facilities are being built for various types of game trout. An experimental hatchery is operated at Lac la Ronge where Arctic grayling and lake trout eggs have been hatched. Spawn camps are operated for the taking of pickerel eggs at Lac la Ronge and Arctic grayling eggs at Black Lake, located east of Lake Athabasca. Efforts are being continued to extend the range of the Arctic grayling species from the Far North into the Churchill River area and particular success was noted in the establishment of Arctic grayling in a water body west of North Battleford which is located below the 53rd parallel. Rainbow trout have been successfully established in a number of smaller reservoirs in the southern part of the province.

The Fisheries Branch maintains a program of dissemination of information to the public on the various fisheries management programs and policies.

Alberta.—Commercial and game fishing are administered by the Fish and Game Branch of the Department of Lands and Forests under the authority of the Fisheries Act (Canada) and the Fishery Act (Alberta).

Regulations under the Fishery Act (Alberta), designed to improve the packing, handling, processing, storage and quality of commercial fish, have been well received and supported by the Alberta industry. In line with a policy for producing good-quality fish, lakes in which whitefish are infected with pike-tapeworm and do not meet the quality standard have been closed to commercial fishing.

About 80 p.c. of the whitefish production is exported to the United States. Mink farmers of the province utilize almost the entire catch of tullibee.

Biological surveys of many lakes and watersheds have provided an opportunity to observe the result of former management policies. These surveys have shown that traditional practices of trout-stream management were inadequate or incorrect. As a consequence, the minimum size limit has been removed on all trout except lake trout and close seasons for trout, pike, walleye and perch have been abolished. A new management plan on the east-slope streams of the Rocky Mountains has been extended to include all the forested area. The main streams are continuously open; the smaller streams are opened and closed in alternate years. The trout-rearing facilities are used mainly to produce fish for planting in small lakes and reservoirs previously barren of fish. It has been found that such waters produce very fast-growing trout with a satisfactory history of survival.

British Columbia.—A Fisheries Office, which was organized in 1901-02 and became very active in fish cultural work, building and operating fish hatcheries and instituting scientific research into various fishery problems, was superseded in 1947 by the Department of Fisheries which in turn was superseded in 1957 by the Department of Recreation and Conservation. Commercial fisheries is represented today as the Commercial Fisheries Branch of the Department of Recreation and Conservation. Broadly speaking the administrative and regulative jurisdiction over the fisheries of British Columbia rests with the federal authority. The ownership of the fisheries in the non-tidal waters is vested in the Crown in the right of the province, as are the shell fisheries such as oyster fishing and clam fishing in the tidal waters. The province administers these fisheries although the regulations covering them are made under federal Order in Council on the advice and recommendation of the province.

The Provincial Fisheries Act provides for the taxation of the fisheries and, under civil and property rights, for the regulation and control of the various fish processing plants under a system of licensing. Provision is also made for arbitration of disputes regarding fish prices that may arise between the fishermen and operators of the various licensed plants. The administration of the Act involves the collection of revenue and the supervision of plant operations.

Net fishing in the non-tidal waters of the province, including commercial fishing, is regulated and administered by the Commercial Fisheries Branch, Department of Recreation and Conservation, and authority for regulation of the game fisheries in non-tidal waters is vested in the Fish and Game Branch which operates a number of trout hatcheries and egg-taking stations for restocking purposes.

The harvesting of marine plants of commercial importance in British Columbia, including the kelps, has recently been placed under the provincial Department of Recreation and Conservation for regulation and control. Some research has been done on a few of the important species. A marine laboratory at Ladysmith on Vancouver Island is operated by the Department for the purpose of conducting biological research into those species over which the province has control, principally oysters, clams and other forms of shellfish as well as marine plants. The object of this research is to encourage the industry to produce better products more economically and to enable the Commercial Fisheries Branch to regulate the various species so that maximum exploitation may be obtained on a sustained-yield basis. The Branch co-operates closely with the research work done by the Fisheries Research Board of Canada, particularly on the Pacific Coast.

Section 3.—Fishery Statistics

Subsection 1.—Primary Production

Since 1949, when Newfoundland became a province of Canada, fish landings for the country have hovered around 2,000,000,000 lb. annually and the gross income from fishing has been in the vicinity of \$100,000,000. In 1956 the catch of fish and its value were at record levels: landings increased to 2,234,354,000 lb. from 1,942,073,000 lb. in 1955 and the value landed reached the unprecedented figure of \$105,835,000 compared with \$91,392,000 for the preceding year. The average for the five years 1951-55 was 1,954,620,000 lb. and the average landed value for the same period was \$94,700,000. Both sea and freshwater results were most gratifying and substantial gains were reported for all areas except the Prairie Provinces.

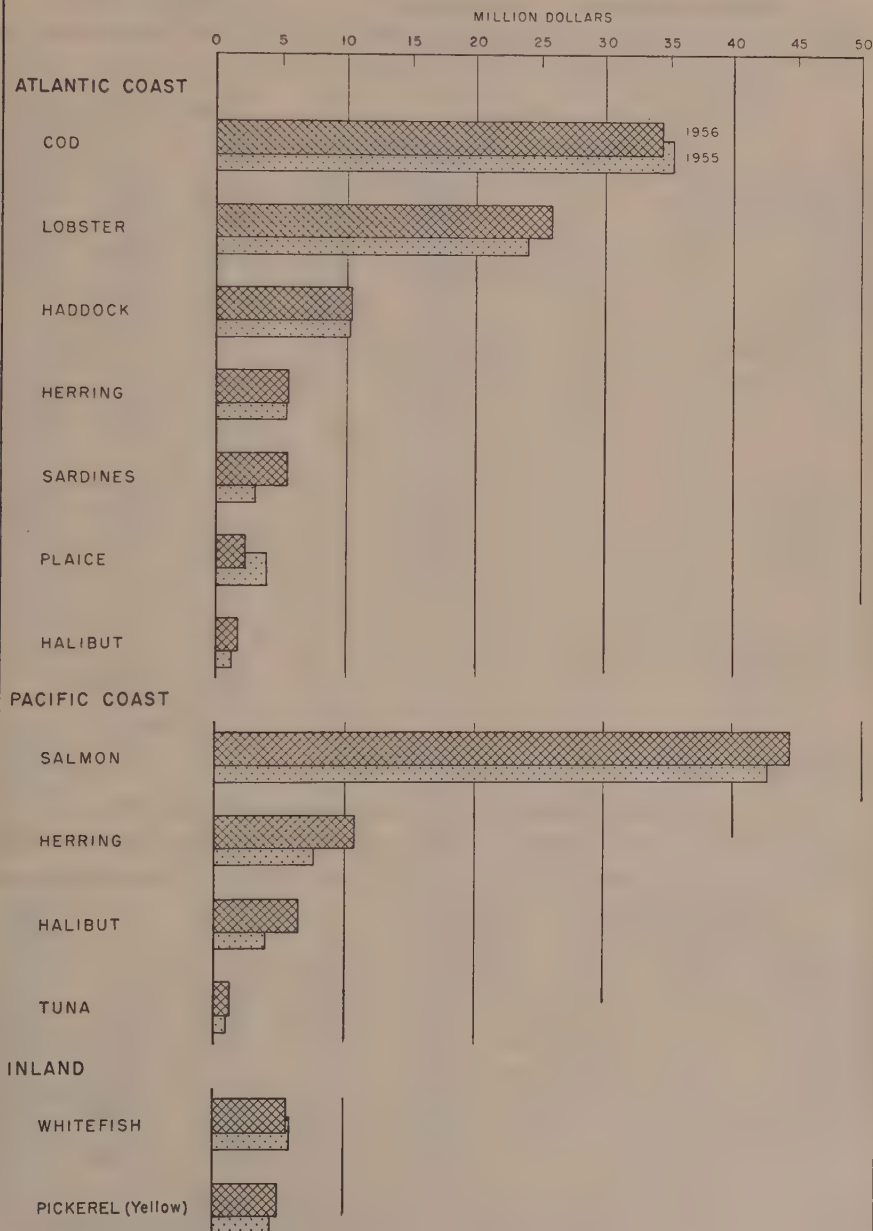
In British Columbia the 1956 catch reached the unprecedented figure of 677,225,000 lb. valued at \$36,058,000 compared with 498,376,000 lb. and \$27,711,000 in 1955; the catch of herring was 491,396,000 lb. with a landed value of \$7,077,000, both figures being an all-time high; and halibut increased to 23,315,000 lb. from 19,679,000 lb. in 1955 with a value of \$5,067,000, almost double the \$2,555,000 of the previous year. On the other hand, it was an off-year in the cycle for pink and sockeye salmon and for a second consecutive year the catch of chum fishery was very disappointing. The total salmon catch in 1956 was the lowest since 1944 but was sold by fishermen at very favourable prices, resulting in a landed value of \$21,356,000 which was 16 p.c. higher than the 1955 value. Salmon, halibut and most of the British Columbia fish brought very high prices in 1956.

The yield on the Atlantic Coast was also very satisfactory in 1956. The catch of sea fish rose to 1,432,533,000 lb. from 1,324,738,000 lb. in 1955 and was the highest since 1949. Gross income from fishing (or landed value) at \$55,889,000 was also the highest since 1949 as a result of satisfactory prices being paid for raw fish. Groundfish and lobster fisheries—both being major operations on the East Coast—were active during the year. Modernization of the fishing fleet along the Atlantic seaboard, accomplished with the assistance of the federal and provincial governments, has been largely responsible for the prosperity of the groundfish fishery during the past decade. In 1956, the groundfish catch of 1,027,972,000 lb. had a value to fishermen of \$27,461,000. Most significant increases over the previous year were shown by the cod, haddock and rosefish fisheries. The lobster catch for the year was 51,960,000 lb. valued at \$18,023,000.

The inland waters yielded a bumper catch of 124,596,000 lb. in 1956 valued to fishermen at \$13,892,000, an all-time high. About two-thirds of the catch comes from Ontario and Manitoba, and Ontario accounted for most of the increase in 1956. During the year the catch of perch, mainly from Lake Erie, was 12,799,000 lb. compared with 6,765,000 lb. in 1955 and the landings of yellow pickerel in Ontario were also heavy, more than offsetting declines in other areas. Alberta fisheries and those of the Great Slave Lake in the North-west Territories also showed increased catches as compared with the previous year.

Preliminary figures for 1957 show that fishing operations were not as successful as in 1956; the sea fish catch and its value fell by 14 p.c. to 1,816,315,000 lb. and \$79,127,000. The decline was more pronounced in British Columbia than on the Atlantic Coast. On the West Coast the catch fell by 29 p.c. to 482,286,000 lb. and the value by 20 p.c. to \$28,787,000. Heavy stocks of frozen halibut and salmon at the beginning of the 1957 season had an adverse effect on prices. The herring catch was also drastically reduced mainly because no price agreement was made between fishermen and processors during the winter of 1957-58. The catch of salmon was up compared with 1956, but the increase was accounted for by the pink species which is a low-priced variety. On the Atlantic Coast the catch declined by 7 p.c. to 1,334,029 lb. and the value landed by 10 p.c. to \$50,340,000. Severe ice conditions off the Coast and in the Gulf of St. Lawrence hampered fishing operations in the first part of the year. The groundfish catch—mainly that of cod, haddock,

MARKET VALUE OF FISH PRODUCTS, 1955 AND 1956 (SELECTED SPECIES)



hake and rosefish—was substantially reduced, compared with the preceding year, and the lobster crop was mediocre. Information available on the freshwater fisheries in 1957 indicates a slight decline from the previous year's level.

1.—Quantity and Value of Sea and Inland Fish Landed, by Province, 1952-56

NOTE.—Figures for the years 1918-51 are given in previous editions of the Year Book beginning with the 1947 edition.

Province or Territory	1952	1953	1954	1955	1956
QUANTITY					
	'000 lb.	'000 lb.	'000 lb.	'000 lb.	'000 lb.
Newfoundland.....	551,960	502,085	607,413	577,954	621,560
Prince Edward Island.....	32,471	31,944	34,627	35,931	42,202
Nova Scotia.....	392,396	371,049	396,511	425,902	442,846
New Brunswick.....	254,599	197,235	213,294	167,438	194,283
Quebec.....	127,563	113,163	92,545	129,192	140,110
Ontario.....	38,044	44,838	47,680	45,634	59,710
Manitoba.....	31,338	23,358	23,445	34,936	30,397
Saskatchewan.....	10,612	8,481	10,524	10,152	9,441
Alberta.....	9,657	10,839	8,765	8,731	9,641
British Columbia.....	406,452	543,676	602,270	498,376	677,225
Northwest Territories.....	7,042	6,719	7,021	7,827	6,939
Totals.....	1,862,134	1,853,387	2,049,095	1,942,073	2,234,354
Sea Fish.....	1,759,205	1,747,171	1,932,908	1,823,114	2,109,758
Inland Fish.....	102,929	106,216	116,187	118,959	124,596
VALUE					
	\$'000	\$'000	\$'000	\$'000	\$'000
Newfoundland.....	12,928	12,015	14,704	14,161	14,969
Prince Edward Island.....	2,660	2,870	2,948	3,279	3,949
Nova Scotia.....	22,679	21,928	23,046	23,582	25,038
New Brunswick.....	7,825	6,910	7,310	6,753	8,146
Quebec.....	3,572	3,395	2,931	3,453	4,440
Ontario.....	7,417	7,027	7,013	6,783	7,927
Manitoba.....	3,439	2,717	3,088	3,477	2,947
Saskatchewan.....	679	553	741	763	784
Alberta.....	654	667	667	688	790
British Columbia.....	30,158	31,280	34,458	27,711	36,058
Northwest Territories.....	735	470	636	742	787
Totals.....	92,716	89,832	97,542	91,392	105,835
Sea Fish.....	79,280	77,718	84,819	78,267	91,944
Inland Fish.....	13,466	12,114	12,723	13,125	13,891

2.—Value of All Products of the Fisheries, by Province, 1952-56

NOTE.—Figures for the years 1917-51 are given in the corresponding table of previous Year Books beginning with the 1922-23 edition. Totals for five-year intervals from 1870 are given in the 1956 edition, p. 597.

Province or Territory	1952	1953	1954	1955	1956
	\$'000	\$'000	\$'000	\$'000	\$'000
Newfoundland.....	27,500 ¹	24,000 ¹	28,000 ¹	27,990	29,374
Prince Edward Island.....	3,759	4,049	3,922	3,841	5,246
Nova Scotia.....	42,435	40,048	44,079	47,093	49,363
New Brunswick.....	20,504	17,749	22,161	20,420	22,830
Quebec.....	6,113	5,804	5,002	6,675	7,860
Ontario.....	8,344	7,916	7,889	7,631	8,920
Manitoba.....	5,960	4,784	5,279	6,044	6,426
Saskatchewan.....	1,440	1,281	1,644	1,617	1,766
Alberta.....	1,943	1,086	1,141	1,144	1,306
British Columbia.....	57,234	65,103	69,351	60,032	67,725
Northwest Territories.....	2,225	1,512	2,040	1,529	1,483
Totals.....	176,457	173,332	190,508	184,169 ²	198,252 ²
Sea Fish.....	157,003	156,072	171,935	165,532	177,695
Inland Fish.....	19,454	17,260	18,573	18,637	20,557

¹ Estimated.

² Figures differ from provincial totals because salted groundfish (except boneless) are based on sales rather than production; duplications for bloaters are also removed.

3.—Quantity and Value Landed and Marketed Value of the Chief Commercial Fish, by Selected Species, 1955 and 1956

Area and Species	Quantity Landed ¹		Value Landed ²		Marketed Value of Products ²	
	1955	1956	1955	1956	1955	1956
	'000 lb.	'000 lb.	\$'000	\$'000	\$'000	\$'000
Atlantic Coast						
Groundfish	914,685	1,027,972	24,485	27,461	58,590	58,714
Catfish	4,698	4,815	126	136	354	441
Cod	579,562	654,124	14,367	16,396	35,327	34,371
Flounder and sole	21,965	5,485	672	120	1,275	1,670
Haddock	135,573	155,390	4,325	4,862	10,354	10,377
Hake	18,438	28,418	302	409	588	835
Halibut	4,446	5,422	950	1,266	1,327	1,710
Plaice	51,799	59,952	1,622	1,701	3,888	2,345
Pollock	38,982	41,329	627	758	1,607	1,974
Rosefish	43,980	59,646	1,015	1,274	2,155	2,881
Witch	8,246	9,760	262	326	336	433
Other	6,996	5,631	217	207	1,381	1,677
Pelagic and Estuarial	296,860	282,816	6,289	6,577	16,047	17,964
Alewives	18,110	16,209	159	165	694	597
Herring	190,054	166,201	1,795	1,737	5,512	5,539
Mackerel	28,117	22,449	1,072	802	2,189	1,857
Salmon	2,643	2,650	892	982	1,668	1,773
Sardines	11,036	29,999	251	654	2,982	5,455
Smelts	6,084	5,089	662	608	1,042	837
Swordfish	4,546	4,612	1,090	1,295	1,432	1,377
Other	36,270	35,607	368	334	528	529
Molluscs and Crustaceans	81,462	84,983	18,186	20,216	27,066	29,123
Clams—						
Quahaugs	791	802	30	36	58	45
Soft-shelled	6,897	6,544	354	374	758	666
Lobsters	48,569	51,960	16,470	18,023	24,005	25,782
Oysters	6,244	4,050	331	350	545	452
Scallops	1,684	2,606	730	1,118	992	1,223
Other	17,277	19,021	271	315	708	955
Other	...	...	1,597	1,635	3,795	4,170
Totals, Atlantic Coast	...	...	50,557	55,889	105,498	109,971
Pacific Coast						
Groundfish	35,766	41,626	3,488	6,156	6,123	8,571
Cod	3,464	3,894	146	173	445	313
Halibut	19,679	23,315	2,555	5,067	3,924	6,513
Lingcod	3,625	4,764	274	423	399	510
Sablefish	1,215	522	143	77	265	139
Sole	6,993	8,304	338	390	710	903
Other	790	827	32	26	380	193
Pelagic and Estuarial	437,325	605,444	22,879	28,757	51,378	56,561
Herring	305,692	491,396	4,187	7,077	7,636	10,660
Salmon	131,008	113,530	18,481	21,356	42,625	44,430
Chum	18,178	27,427	1,799	3,317	3,749	6,318
Coho	21,534	23,218	4,149	5,725	8,632	10,890
Pink	63,106	28,937	5,617	2,612	15,953	7,943
Sockeye	16,642	21,497	4,003	5,930	9,343	13,012
Spring	11,306	12,221	2,879	3,728	4,260	5,680
Other	242	230	34	44	698	587
Tuna	—	—	—	—	980	1,292
Other	625	518	211	324	137	179
Molluscs and Crustaceans	16,915	17,702	1,107	1,033	2,140	2,079
Clams, butter, little neck, razor, etc	4,944	3,695	142	102	436	360
Crabs	4,514	3,791	468	392	996	984
Oysters	6,361	8,999	316	340	420	426
Shrimps and prawns	1,088	1,216	181	199	281	305
Other	8	1	—	—	7	4
Other	...	...	237	112	390	515
Totals, Pacific Coast	...	...	27,711	36,058	60,031	67,726

For footnotes, see end of table, p. 600.

3.—Quantity and Value Landed and Marketed Value of the Chief Commercial Fish, by Selected Species, 1955 and 1956—concluded

Area and Species	Quantity Landed ¹		Value Landed ²		Marketed Value of Products ²	
	1955	1956	1955	1956	1955	1956
	'000 lb.	'000 lb.	\$'000	\$'000	\$'000	\$'000
Inland						
Freshwater Fish	106,396	113,336	12,634	13,283	18,134	19,918
Bass	4,589	5,795	458	578	515	651
Catfish	1,535	1,472	222	207	246	233
Herring, lake (cisco)	935	1,140	69	90	78	101
Perch	6,765	12,799	794	1,011	942	1,184
Pickeral (blue)	12,070	12,020	1,448	1,802	1,630	2,028
Pickeral (yellow)	19,739	20,922	3,093	3,161	4,364	5,053
Pike	6,960	6,987	339	306	703	720
Saugers	4,423	4,428	549	625	893	1,015
Sturgeon	392	386	286	274	325	313
Trout	6,011	5,096	859	758	1,452	1,313
Tullibee	9,231	8,500	413	413	571	913
Whitefish	21,990	22,884	3,726	3,636	5,870	5,810
Other	11,756	10,907	378	422	545	584
Other	12,563	11,260	488	609	503	638
Totals, Inland	118,959	124,596	13,122	13,892	18,637	20,556
Grand Totals³	...	...	91,390	105,839	184,166	198,253

¹ Excludes livers. ² Includes value of livers and liver products. ³ Slight discrepancy in totals compared with data in Table 1 results from rounding of individual figures.

4.—Capital Investment in Primary Sea and Inland Fisheries Operations, 1954-56

Kind of Equipment	1954 ¹		1955 ¹		1956	
	No.	\$'000	No.	\$'000	No.	\$'000
Sea Fisheries						
Trawlers	21	90,707	35	92,018	33	109,111
Vessels—gasoline, diesel and sail	2,268	3,985	2,338	4,479	2,462	6,603
Boats—gasoline, diesel, sail and row	26,262	34,099	25,504	36,523	37,219	41,576
Packers, carrying boats and scows	1,054	24,633	807	22,977	757	27,383
Herring gill-nets	43,695	1,483	41,134	1,465	44,375	1,461
Mackerel nets	25,041	1,132	22,988	1,067	17,751	1,327
Salmon nets, traps and seines	...	757	...	736	...	610
Smelt nets	13,550	4,748	5,077	...	...	5,416
Other nets, weirs and seines	...	536	11,838	553	10,323	425
Tubs of trawl, skates of gear, hand-lines	...	3,418	...	3,784	...	5,692
Lobster traps and pounds	2,011,641	1,235	...	1,151	...	1,862
Other gear	...	7,849	2,031,587	8,281	2,373,587	9,368
Premises—piers, wharves, freezers, ice-houses, small fish- and smoke-houses	...	850	...	800	...	748
	...	5,082	...	5,175	...	6,640
Inland Fisheries						
Carrying boats	77	15,842	105	15,053	95	14,461
Gasoline boats, skiffs, canoes	6,826	626	6,335	548	6,155	451
Gill-nets	246,254	5,025	238,703	4,775	21,884 ²	4,661
Other nets, weirs and seines	...	5,421	...	5,280	...	4,966
Other gear	...	1,340	...	1,391	...	1,316
Premises—piers, wharves, freezers, ice-houses, small fish- and smoke-houses	...	81	...	95	...	97
Other equipment—fish tanks, bombardiers, trucks, snowmobiles, aircraft, etc.	...	2,343	...	2,451	...	2,437
	...	1,103	...	513	...	533
Grand Totals	...	106,549	...	107,071	...	123,572

¹ Exclusive of Newfoundland

² Thousand yards.

5.—Persons Employed in the Primary Fishing Industry, by Province, 1954-56

Province	Sea Fisheries			Inland Fisheries		
	1954	1955	1956	1954	1955	1956
	No.	No.	No.	No.	No.	No.
Newfoundland.....	16,469	16,000 ¹	14,956	—	—	—
Prince Edward Island.....	2,794	2,863	2,967	—	—	—
Nova Scotia.....	14,864	14,221	14,379	—	—	—
New Brunswick.....	9,299	9,634	9,399	404	432	386
Quebec.....	5,055	5,147	5,290	1,217	1,236	1,022
Ontario.....	—	—	—	3,567	3,483	3,135
Manitoba.....	—	—	—	5,970	5,775	5,389
Saskatchewan.....	—	—	—	1,066	921	997
Alberta.....	—	—	—	5,324	5,247	4,277
British Columbia.....	13,038	12,836	11,851	—	—	—
Northwest Territories.....	—	—	—	574	716	575
Totals.....	61,519	60,701	58,842	18,122	17,810	15,781

¹ Estimate.**Subsection 2.—The Fish Processing Industry**

The Census of Industry survey of the fish processing industry covers establishments engaged in the processing of fish at the secondary industrial level. Some fishermen also process the fish they land to a certain degree but their operations are not included nor are the minor amounts of processing done in the inland areas (Ontario, the Prairie Provinces, and the Northwest Territories). In 1956, products of fish processing establishments had a selling value of \$170,063,000; the East Coast fish plants contributed \$88,450,000 and those of British Columbia \$81,612,700.

6.—Summary Statistics of Sea Fish Processing Establishments, 1952-56

Item	1952	1953	1954	1955	1956
Establishments..... No.	635	607	586	574	486¹
Newfoundland.....	40	35	29	34	43
Prince Edward Island.....	54	47	41	36	30
Nova Scotia.....	198	199	184	194	140
New Brunswick.....	176	167	166	167	147
Quebec.....	89	82	84	71	74
British Columbia.....	78	77	82	72	52
Employees..... No.	14,354	13,623	14,202	14,626	14,329
Male.....	10,329	9,833	10,225	10,283	10,167
Female.....	4,025	3,790	3,977	4,343	4,172
Salaries and wages..... \$'000	24,426	23,092	26,001	26,320	27,583
Fuel and electricity used.....	2,533	2,410	2,605	2,663	2,860
Materials used.....	86,458	85,908	95,633	101,921	104,575
Value of products.....	134,725	137,310	153,457	159,888	170,063 ²

¹ Excluding establishments whose main activity was the handling of fresh fish or other products, such establishments being included for previous years. ² Not strictly comparable with previous years; this figure applies to sales or shipments, while the value of production is given for previous years.

The most important products of the fish processing industry are canned salmon for British Columbia and frozen fillets of groundfish for the Atlantic Coast. Because of small landings of salmon in 1956, the pack of the canned product was the lowest since the year 1944. It fell by 21 p.c. to 1,115,181 cases from 1,410,795 in the preceding year. Its value, at \$31,852,000, represented about 40 p.c. of the value of the British Columbia products reported through the Census of Industry and was 2.5 p.c. less than in the preceding year. A smaller decline in value than in quantity was caused by firmer prices than in the

preceding year as well as by a greater contribution of the more expensive varieties in 1956. Other important products of the processing industry in British Columbia include frozen halibut, herring meal and oil, and frozen salmon.

7.—Pacific Coast Production of Canned Salmon, 1952-56

Species	1952	1953	1954	1955	1956
	QUANTITY (cases 48 lb.)				
Chum.....	92,613	394,867	580,575	124,769	204,071
Coho.....	65,003	110,165	128,080	185,722	212,115
Pink.....	679,182	794,764	335,551	831,253	363,933
Sockeye.....	449,494	510,147	681,768	249,365	320,096
Spring.....	9,279	13,048	14,080	18,097	13,713
Steelhead.....	8,762	3,030	3,733	1,589	1,253
Totals.....	1,299,333	1,826,021	1,743,787	1,410,795	1,115,181
	VALUE				
	\$'000	\$'000	\$'000	\$'000	\$'000
Chum.....	1,261	5,276	8,155	1,966	3,925
Coho.....	1,412	2,309	2,996	5,250	6,783
Pink.....	10,964	12,226	5,989	15,740	7,761
Sockeye.....	14,627	15,969	20,982	9,304	12,990
Spring.....	180	216	237	337	361
Steelhead.....	79	68	77	39	32
Totals.....	28,523	36,054	38,436	32,636	31,852

The frozen groundfish fillet production on the East Coast (packaged fillets and blocks) was 133,491,000 lb. in 1956 as against 121,397,000 lb. in 1955. This production has increased almost constantly from year to year in the past decade, the major factor in the growth during the past few years being the production of fish blocks. Frozen groundfish fillets produced on the East Coast were valued at \$25,526,000 in 1956, which made up about 30 p.c. of the total value for the fish processing industry in the area. Dried salted fish, pickled fish, canned sardines and lobster products are also important products of the Atlantic Coast.

8.—Atlantic Coast Production of Frozen Fillets and Fish Blocks, 1952-56

Area and Species	1952	1953	1954	1955 ^a	1956
	QUANTITY				
	'000 lb.	'000 lb.	'000 lb.	'000 lb.	'000 lb.
Maritimes.....	40,488	36,500	55,189	58,455	64,228
Cod.....	19,270	12,998	22,812	18,870	22,504
Haddock.....	8,901	10,731	16,487	19,080	20,227
Rosefish.....	1,894	4,827	7,091	6,771	9,340
Flatfish.....	8,293	6,080	7,143	11,863	10,051
Other.....	2,130	1,864	1,656	1,871	2,106
Quebec.....	1,706	792	1,824	4,099	7,368
Cod.....	1,560	688	1,645	2,962	6,099
Other.....	146	104	179	1,147	1,269
Newfoundland.....	36,855	34,552	53,326	58,843	61,895
Cod.....	20,566	17,220	31,362	33,457	31,312
Haddock.....	3,563	5,195	13,663	16,493	19,619
Rosefish.....	8,716	8,028	5,622	4,830	6,154
Flatfish.....	8,732	4,014	2,487	3,982	4,633
Other.....	278	95	192	81	177
Totals, Atlantic Coast.....	79,049	71,844	110,339	121,397	133,491
Cod.....	41,316	30,906	55,819	55,279	59,815
Haddock.....	12,466	15,926	30,150	35,716	39,921
Rosefish.....	10,643	12,855	12,713	11,833	16,086
Flatfish.....	12,136	10,094	9,630	16,531	15,245
Other.....	2,408	2,063	2,027	2,038	2,324

8.—Atlantic Coast Production of Frozen Fillets and Fish Blocks, 1952-56—concluded

Area and Species	1952	1953	1954	1955 ¹	1956
	VALUE				
	\$'000	\$'000	\$'000	\$'000	\$'000
Maritimes	9,287	7,948	12,079	13,041	12,495
Cod.....	3,561	2,215	4,509	3,728	3,983
Haddock.....	2,273	2,541	3,915	4,324	3,759
Rosefish.....	471	948	1,380	1,198	1,574
Flatfish.....	2,583	1,831	1,870	3,405	2,662
Other.....	399	413	405	386	517
Quebec	269	120	217	765	1,150
Cod.....	234	96	174	496	901
Other.....	35	24	43	269	249
Newfoundland¹	7,845	6,894	10,852	11,439	11,881
Cod.....	3,880	2,970	6,009	6,229	5,646
Haddock.....	900	1,149	3,009	3,207	3,703
Rosefish.....	1,850	1,621	1,131	888	1,172
Flatfish.....	1,175	1,141	661	1,095	1,321
Other.....	40	13	42	20	39
Totals, Atlantic Coast	17,401	14,962	23,148	25,245	25,526
Cod.....	7,675	5,281	10,692	10,453	10,530
Haddock.....	3,174	3,690	6,924	7,561	7,477
Rosefish.....	2,327	2,569	2,511	2,119	2,834
Flatfish.....	3,786	2,972	2,531	4,694	4,121
Other.....	439	450	490	418	564

¹ Value based on average export prices for the years 1952 to 1954.

The value of all fishery products processed or handled in Canada by processors, handlers or fishermen during 1956 reached \$198,253,000 for the sea and inland fisheries, 7.6 p.c. higher than the 1955 level of \$184,166,000; East Coast sea fish products rose to \$109,971,000 from \$105,498,000, the British Columbia value of fishery products to \$67,726,000 from \$60,031,000 and the inland fish value to \$20,557,000 from \$18,637,000.

PART II.—FURS

Section 1.—Review of the Fur Industry*

The beaver, symbol of industry and engineering skill, has well earned his place on the Canadian coat of arms. A few years after the discovery of the North American Continent, beaver fur became a major product in the economy of the New World. Europeans recognized the value of beaver pelts for warmth and in the production of felt. North American Indians recognized the value of metal implements in their economy. Under the dual stimuli, intensive hunting developed which soon depleted the resources of the coastal areas and traders moved up the St. Lawrence River to find new sources of supply. With increasing demand for furs from European markets, competition became very keen and frequently led to violence between rival nations. Continued competition in later years between the Northwest Company and the Hudson's Bay Company resulted in a further westward surge of exploration culminating in Sir Alexander Mackenzie's epic journeys to the Arctic and Pacific Oceans. Unfortunately, exploration gave way to exploitation. By the beginning of the twentieth century many fur species were faced with extinction and their declining numbers brought hardship to the trader and even greater hardship to the native peoples who had become dependent on the white man for the necessities of life.

However, about that time, major changes began to take place in the techniques of fur production. Fur farming, particularly of fox and mink, made its appearance. Mink ranching, coinciding with the present popularity of short-haired furs, has provided a large part of the revenue of the fur industry in recent years. Of greater importance has been

* Prepared by the Canadian Wildlife Service, Department of Northern Affairs and National Resources, Ottawa.

the realization that fur-bearing animals are a renewable resource and that proper management can provide much greater returns. Legislation has therefore been passed by provincial governments and by the Federal Government sharply limiting the trapping pressure in the areas under their respective control. The establishment of National Parks and Game Sanctuaries has provided areas where animals may increase unmolested and repopulate formerly depleted areas. Intensive forest fire control and forest management have assured a continuous habitat suited to mammal needs.

One of the major management techniques developed has been the introduction of registered trapping areas. Under this plan, each trapper has some opportunity of managing his own area to provide the greatest possible return while sustaining the yield. With the guidance of conservation education the trapper is taking his place as an intelligent partner in the maintenance and expansion of the fur industry.

Unfortunately, the possible benefit from the increase in potential fur production brought about by fur farming and intelligent harvesting methods has been largely nullified by declining prices. The decline in popularity of fur as an article of clothing has been particularly noticeable since the end of the War and low prices have brought considerable hardship to those people, particularly northern residents, who depend on the fur crop as a major source of income. In the light of this situation, the Federal Government has arranged a series of international exhibitions designed to stimulate the market for Canadian fur. Research to determine actual numbers and status of fur-bearers is being carried on by the provincial governments in the provinces and by the Canadian Wildlife Service in the Yukon and Northwest Territories, with the objective of improving management practices and maintaining closer control of fur harvests.

The relative value of the fur industry in Canada's economy has, of course, lowered continuously throughout the years, but the dollar value of the annual fur production has remained fairly constant.

Section 2.—Provincial and Territorial Fur Resources and Management

Most of the fur resources of the provinces of Canada are under the administration of the respective provincial governments. Exceptions include those resources within the boundaries of the National Parks and the Indian reserves, and the fur resources of the Yukon Territory and Northwest Territories all of which are under the administration of the Federal Government. The Canadian Wildlife Service of the Department of Northern Affairs and National Resources (*see pp. 22-23*) is responsible for all Federal Government interests in wildlife resources except for those activities closely related to Indian affairs. The service co-operates with provincial governments and other agencies concerned and handles federal interests in relevant national and international problems.

Detailed descriptions of provincial and territorial fur resources and management activities are given in the 1957-58 Year Book, pp. 616-622.

Section 3.—Fur Farming

Fur-bearing animals were first raised in Canada on farms in Prince Edward Island about 1887 and in Quebec in 1898; today fur farming is carried on in all the provinces. Foxes were the first fur-bearers to be raised in captivity on a commercial scale and for a time were of prime importance in the fur farming industry but in 1951 mink accounted for 92 p.c. of the total fur-bearing animals on farms and chinchilla for 7 p.c. Small numbers of raccoon, marten, fisher, fitch, nutria and others are also reared.

There was a slow and steady increase in the number of fur farms until 1920 when 587 were reported, followed by a period of more rapid growth from 1920 to 1938 when the number reached 10,454 with a production value of \$6,500,000. In 1939, when the London and other European markets were lost to the fur industry, prices declined and many fur farms went out of production. Though prices rose considerably after the Second World War, operating costs increased and the number of fur farms, particularly those conducted

in conjunction with other farming operations, continued to decrease. By 1956 only 2,829 farms reported but the value of production had reached \$16,542,000.

Statistics of fur farms are given in the following Section, pp. 606-608.

Section 4.—Statistics of Fur Production*

Total Fur Production Statistics.—Early records of raw fur production were confined to the decennial censuses when account was taken of the number and value of pelts obtained by trappers. In 1920 the Dominion Bureau of Statistics commenced an annual survey of raw fur production. For a number of years the statistics were based on information supplied by the licensed fur trappers. More recently annual statements based on royalties, export tax, etc., have been made available by the provincial game departments (except Prince Edward Island), and these statements are used in the preparation of the statistics issued annually by the Bureau. Figures for Prince Edward Island are based on returns supplied to the Dominion Bureau of Statistics by fur dealers in that province.

1.—Pelts of Fur-Bearing Animals Produced and Percentage Sold from Fur Farms, Years Ended June 30, 1938-57

Year	Pelts		Percentage of Value Sold from Fur Farms ¹	Year	Pelts		Percentage of Value Sold from Fur Farms ¹
	Number	Value			Number	Value	
		\$				\$	
1938.....	4,745,927	13,196,354	43	1948.....	7,952,146	32,232,992	37
1939.....	6,492,222	14,286,937	40	1949.....	9,902,790	22,899,882	33
1940.....	9,620,695	16,668,348	31	1950.....	7,377,491	23,184,033	34
1941.....	7,257,337	21,123,161	26	1951.....	7,479,272	31,134,400	36
1942.....	19,561,024	24,859,869	19	1952 ²	7,931,742	24,215,061	42
1943.....	7,418,971	28,505,033	24	1953.....	7,568,865	23,349,680	43
1944.....	6,324,240	33,147,392	28	1954.....	6,274,727	19,287,522	49
1945.....	6,994,686	31,001,456	31	1955.....	9,670,796	30,509,515	43
1946.....	7,593,416	43,870,541	30	1956.....	7,727,264	28,051,746	56
1947.....	7,486,914	26,349,997	37	1957.....	6,919,724	25,592,130	57

¹ Approximate.

² Wildlife pelts for Newfoundland included from 1952.

Manitoba led the provinces in value of fur production, accounting for 23 p.c. of the total in the 1956-57 season. Ontario followed with 22 p.c., British Columbia with 14 p.c., Alberta 13 p.c., Saskatchewan 12 p.c., Quebec 8 p.c., the Atlantic Provinces 5 p.c. and the Yukon and Northwest Territories combined, with 3 p.c.

* Revised in the Agriculture Division, Dominion Bureau of Statistics.

2.—Pelts of Fur-Bearing Animals Produced, by Province, Years Ended June 30, 1956 and 1957

Province or Territory	1956			1957		
	Pelts	Value	Percentage of Total Value	Pelts	Value	Percentage of Total Value
	No.	\$		No.	\$	
Newfoundland.....	35,779	276,742	1.0	36,919	256,802	1.0
Prince Edward Island.....	3,943	50,011	0.2	6,203	76,865	0.3
Nova Scotia.....	86,686	362,597	1.3	92,997	665,646	2.6
Nova Brunswick.....	30,544	288,442	1.0	62,630	285,113	1.1
Quebec.....	298,198	2,095,561	7.5	295,838	1,970,616	7.7
Ontario.....	960,181	7,136,666	25.4	1,037,915	5,562,523	21.7
Manitoba.....	1,768,020	6,087,719	21.7	1,859,399	5,980,939	23.4
Saskatchewan.....	2,504,593	3,446,003	12.3	1,442,102	2,991,167	11.7
Alberta.....	1,817,164	3,770,226	13.4	1,264,643	3,383,287	13.2
British Columbia.....	446,491	3,576,444	12.7	456,089	3,577,510	14.0
Yukon Territory.....	109,576	155,777	0.6	108,102	108,873	0.4
Northwest Territories.....	366,089	805,558	2.9	256,887	732,789	2.9
Canada.....	7,727,264	28,051,746	100.0	6,919,724	25,592,130	100.0

Average prices for pelts were generally lower in 1956-57 than in 1955-56. Of the nine kinds having the highest value of production, mink pelts including standard and mutation dropped from \$20.19 to \$14.78, beaver from \$12.10 to \$11.64, muskrat from \$0.95 to \$0.89, squirrel from \$0.46 to \$0.45, ermine from \$1.35 to \$1.17, otter from \$26.71 to \$26.54, fisher from \$22.04 to \$19.20 and marten from \$7.87 to \$6.05. White fox pelts increased from \$13.14 to \$16.28.

3.—Pelts of Fur-Bearing Animals Taken, by Kind, Years Ended June 30, 1956 and 1957

Kind	1956			1957		
	Pelts	Total Value	Average Value	Pelts	Total Value	Average Value
	No.	\$	\$	No.	\$	\$
Badger.....	271	95	0.35	395	118	0.30
Bear, white.....	454	11,490	25.31	445	11,260	25.30
Bear, unspecified.....	319	739	2.32	578	1,550	2.68
Beaver.....	282,036	3,412,108	12.10	280,671	3,267,234	11.64
Coyote or prairie wolf.....	4,534	11,072	2.44	3,211	6,614	2.06
Ermine (weasel).....	379,597	512,163	1.35	317,380	372,801	1.17
Fisher.....	6,324	139,390	22.04	5,076	97,440	19.20
Fox, blue.....	331	2,180	6.59	230 ¹	847 ¹	3.68
Fox, cross.....	966	1,104	1.14	615	722	1.17
Fox, new-type.....	1,762	12,577	7.14	3	3	...
Fox, red.....	22,458	12,351	0.55	7,412	5,565	0.75
Fox, silver.....	4,683	31,184	6.66	4,036	27,696	6.86
Fox, white.....	31,728	417,027	13.14	28,338	461,271	16.28
Fox, not specified.....	74	490	...	19	56	...
Lynx.....	9,988	52,652	5.27	8,748	75,200	8.60
Marten.....	16,641	130,933	7.87	13,381	80,968	6.05
Mink, standard.....	515,548	9,895,874	19.19	648,901	8,420,889	12.98
Mink, mutation.....	363,282	7,851,762	21.61	491,620	8,438,905	17.17
Muskrat.....	4,518,731	4,313,453	0.95	3,566,253	3,177,707	0.89
Otter.....	14,492	387,143	26.71	13,505	358,472	26.54
Rabbit.....	117,709	66,815	0.57	92,118	64,707	0.70
Raccoon.....	36,807	81,743	2.22	32,168	54,368	1.69
Skunk.....	2,932	2,199	0.75	2,630	1,876	0.71
Squirrel.....	1,391,089	640,235	0.46	1,397,499	623,051	0.45
Wildcat.....	1,404	1,176	0.84	512	497	0.97
Wolf.....	558	2,510	4.50	515	3,274	6.36
Wolverine.....	599	10,546	17.61	527	9,787	18.57
Other.....	1,947	50,735	...	2,941	29,255	...
Totals.....	7,727,264	28,051,746	...	6,919,724	25,592,130	...

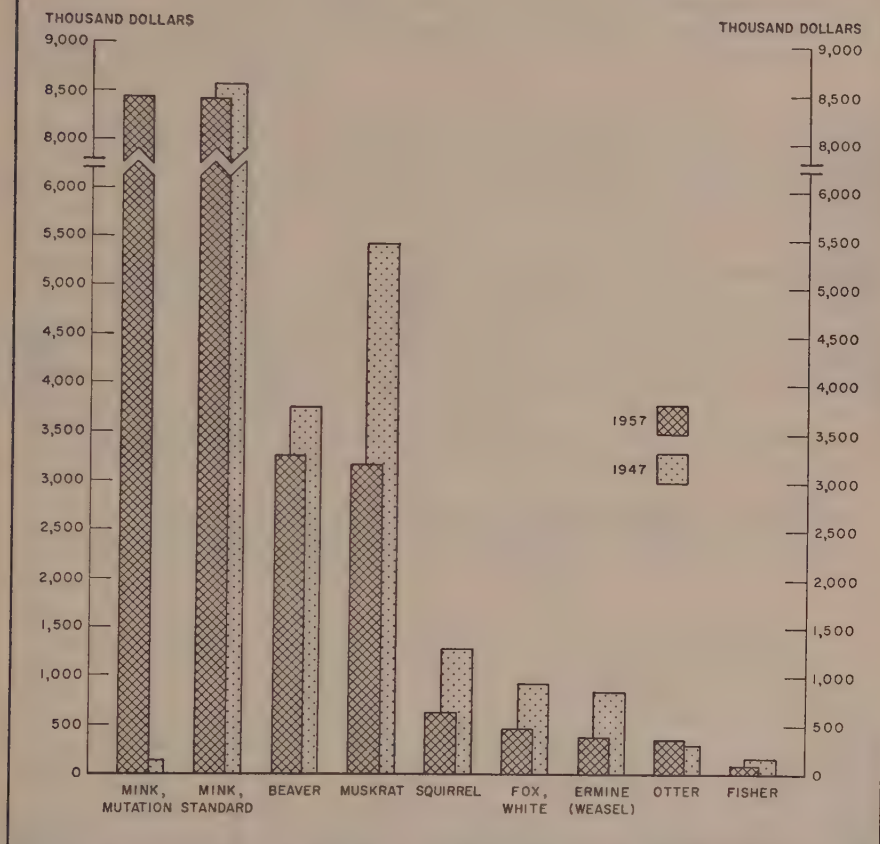
¹ Ranch-raised blue included with silver fox.

² Included with silver fox.

Fur Farm Statistics.—There were 2,829 fur farms operating in Canada in 1956 in comparison with 2,706 in the previous year. The increase was accounted for by the operation of a larger number of chinchilla farms.

The number of mink on farms increased from 402,453 valued at \$11,880,147 in 1955 to 416,098 valued at \$10,000,621 in 1956. Fox pelt production decreased from 7,238 valued at \$66,070 in 1955 to 4,059 valued at \$29,636 in 1956. Mink pelts produced numbered 786,760 valued at \$15,787,520 compared with 1,002,188 valued at \$15,413,231 in 1956.

VALUE OF PELTS OF FUR-BEARING ANIMALS TAKEN, BY SPECIFIED KIND, YEARS ENDED JUNE 30 1947 AND 1957



4.—Fur Farms and Value of Fur-Bearing Animals Thereon, by Province, 1955 and 1956

Province	Fur Farms at Year End		Values of Fur-Bearing Animals on Fur Farms	
	1955	1956	1955	1956
	No.	No.	\$	\$
Newfoundland.....	47	33	412,116 ¹	381,380 ¹
Prince Edward Island.....	34	31	109,383	69,492
Nova Scotia.....	86	81	250,077	216,239
New Brunswick.....	112	93	353,513	277,067
Quebec.....	267	425	1,316,529	1,597,536
Ontario.....	736	734	4,031,095	2,800,415
Manitoba.....	372	353	2,373,636	2,083,438
Saskatchewan.....	156	178	810,100	736,965
Alberta.....	481	398	2,109,448	1,592,498
British Columbia.....	415	503	3,240,504 ¹	3,009,572 ¹
Totals.....	2,706	2,829	15,008,081¹	12,764,987¹

¹ Figures for one fox farm in Newfoundland and two in British Columbia are included in the total for Canada but are excluded from provincial totals.

5.—Fur-Bearing Animals on Fur Farms, as at Dec. 31, 1955 and 1956

Kind of Animal	1955		1956	
	Number	Value	Number	Value
		\$		\$
Fox—				
Blue.....	197	69,269	98	47,135
Platinum.....	287		199	
Pearl platinum.....	1,053		479	
Silver.....	1,552		1,011	
White-marked.....	131		69	
Unspecified.....	73		56	
Mink—				
Standard.....	104,036	11,880,147	61,360	10,000,621
Mutation—				
Platinum (silverblu).....	57,369		64,150	
Pastel.....	127,439		128,995	
Other.....	113,609		161,593	
Chinchilla.....	26,913	3,031,107	34,167	2,620,843
Marten.....	177	6,475	137	4,850
Nutria.....	316	19,290	634	89,390
Raccoon.....	84	548	75	483
Other.....	30	1,245	28	1,665
Totals.....	433,266	15,008,081	453,051	12,764,987

6.—Number and Value of Pelts Produced on Fur Farms, by Kind, 1955 and 1956

Kind of Animal	1955		1956	
	Number	Value	Number	Value
		\$		\$
Fox—				
Blue.....	228	2,444	218	29,636
Platinum.....	468	3,963	379	
Pearl platinum.....	2,291	22,909	1,390	
Silver.....	4,119	35,982	1,944	
White-marked.....	106	609	114	
Unspecified.....	26	163	14	
Mink—				
Standard.....	275,242	4,354,689	307,966	3,438,083
Mutation—				
Platinum (silverblu).....	134,509	2,450,174	121,269	1,867,028
Pastel.....	220,925	5,021,007	331,443	5,392,433
Other.....	156,084	3,961,650	241,510	4,715,687
Chinchilla.....	1,742	47,897	2,705	26,090
Raccoon.....	17	45	13	35
Other.....	72	765	90	2,470
Totals.....	795,829	15,902,297	1,009,055	15,471,462

Section 5.—Marketing of Furs

Montreal, Que., is the leading Canadian fur mart although auction sales are also held at Vancouver, B.C., Edmonton, Alta., Regina, Sask., and Winnipeg, Man. The Saskatchewan Government maintains a Fur Marketing Service at Regina to assist producers in that province.

Grading.—The grading of furs to secure uniformity was introduced in 1939 by the federal Department of Agriculture so that furs may be purchased by grade without the necessity of buyers from other countries personally examining the pelts. Grading offers many advantages to the producer as well as to the trade in general. It educates the rancher as to the proper value of his pelts and creates an incentive to improve the quality of the product; it furnishes guidance in the planning of future matings, aids in raising the standard of quality of the entire crop of pelts and helps in advancing the level of prices for high-quality pelts.

Exports and Imports.—Before World War II, Canada marketed fur pelts mainly in the United Kingdom but that market was practically dormant during the war years and the fur trade was carried on chiefly with the United States. A revival of trade with the United Kingdom took place after the War but almost 80 p.c. of Canadian fur exports still go to the United States.

The Canadian fur trade, both export and import, is mostly in undressed furs, the value of dressed and manufactured furs going out of or coming into Canada being a comparatively small proportion of the total. Canadian fur exports consist largely of those produced in greatest abundance, mink being the most valuable followed by beaver, muskrat and squirrel. Furs such as Persian lamb, mink, certain types of muskrat, raccoon, sheep and lamb and Kolinsky make up the major portion of the imports.

Exports and imports of all furs to and from the United States, the United Kingdom and all countries are given for the years 1956 and 1957 in Table 7.

7.—Exports and Imports of Furs, by Kind, 1956 and 1957

Kind of Fur	1956			1957		
	United Kingdom	United States	All Countries	United Kingdom	United States	All Countries
EXPORTS						
	\$	\$	\$	\$	\$	\$
Undressed—						
Beaver.....	1,015,442	2,330,198	3,730,349	964,293	1,930,237	3,431,534
Ermine.....	203,877	232,930	436,807	195,124	106,406	302,046
Fisher.....	111,241	55,317	185,517	65,964	30,052	112,068
Fox, all types.....	82,881	913,892	1,001,433	69,905	663,900	742,728
Lynx.....	49,645	39,519	89,709	11,177	100,097	111,358
Marten.....	39,572	99,465	139,165	27,018	65,543	93,358
Mink.....	698,437	15,636,199	16,673,847	1,258,689	16,976,813	18,730,720
Muskrat.....	1,323,427	1,069,132	2,453,676	1,095,943	317,570	1,487,992
Otter.....	5,610	34,601	61,615	13,141	11,270	35,789
Rabbit.....	415	89,426	92,578	—	83,620	83,520
Raccoon.....	408	23,446	23,854	111	10,469	16,749
Seal.....	—	36,491	36,491	—	—	—
Skunk.....	4,444	5,005	9,449	2,389	595	2,984
Squirrel.....	580,057	17,382	597,467	541,521	19,068	562,698
Weasel.....	96,412	111,853	208,265	35,156	42,146	77,302
Wolf.....	4,462	4,084	8,636	4,122	5,808	13,798
Other.....	8,172	132,071	154,247	26,400	94,173	139,326
Dressed—						
Fox.....	—	—	391	—	—	—
Other.....	9,713	552,742	1,310,995	49,810	444,364	1,465,305
Manufactured.....	3,175	491,126	528,408	2,591	493,337	570,458
Totals.....	4,237,390	21,874,879	27,732,899	4,363,354	21,395,368	27,979,733

7.—Exports and Imports of Furs, by Kind, 1956 and 1957—concluded

Kind of Fur	1956			1957		
	United Kingdom	United States	All Countries	United Kingdom	United States	All Countries
IMPORTS						
	\$	\$	\$	\$	\$	\$
Undressed—						
China and Jap mink.....	7,201	19,238	139,586	—	15,072	50,505
Fox.....	129,449	22,650	182,765	143,615	56,600	327,554
Kolinsky.....	126,319	385	278,207	106,327	5,318	389,413
Marten.....	—	—	—	—	365	365
Mink.....	130,953	3,371,412	3,731,975	162,752	4,248,652	4,659,586
Muskrat.....	112,911	2,034,050	2,221,729	11,024	2,759,768	2,840,797
Opossum.....	—	16,004	16,004	333	8,404	8,742
Persian lamb.....	2,396,723	5,715,927	8,684,322	2,178,180	5,590,743	8,780,980
Rabbit.....	—	59,998	224,415	2,017	61,697	173,882
Raccoon.....	—	806,987	806,987	—	647,892	647,892
Sheep and lamb.....	3,428	218,177	491,592	1,733	358,729	427,295
Squirrel.....	36,848	68,249	127,609	51,463	83,680	118,194
Other.....	309,374	1,098,598	2,325,936	272,724	705,562	2,437,780
Dressed—						
Rabbit.....	—	8,135	51,772	6,887	8,617	77,769
Sheep skins.....	2,841	195,443	199,907	2,396	175,926	178,578
Hatters furs.....	35,198	590,343	1,113,234	43,952	488,295	993,203
Other.....	47,364	2,486,317	2,612,155	182,382	2,598,729	2,877,881
Manufactured.....	51,907	538,943	623,432	29,582	672,138	720,617
Totals.....	3,390,516	17,250,856	23,831,627	3,195,372	18,486,187	25,711,933

Section 6.—The Fur Processing Industry*

The rather general term 'fur processing' includes the fur dressing and dyeing industry and the fur goods industry. The former is concerned with the dressing or dyeing of pelts on a custom basis and the latter is a manufacturing industry that makes up fur goods such as coats, scarves and gloves.

Fur dressing and dyeing industry statistics were first recorded in 1917 when 12 establishments with 511 employees reported receipts of \$1,071,805. Eight establishments in 1924 reported revenues of \$1,120,895, expenditures of \$162,013 on dyes, chemicals and other materials used, and expenditures of \$561,233 on salaries and wages to 539 employees. Of the 3,473,909 skins treated in that year, muskrat pelts made up 47 p.c., rabbit 19 p.c. and squirrel 10 p.c.

The greatest number of skins treated was reported in 1941 when 14,592,079 were handled, but almost 53 p.c. of those were rabbit skins so that the revenue for that year was only \$2,476,289. The record revenue reported was that for 1949 when \$6,691,418 was received and rabbit skins constituted 38 p.c. of the total processed.

In 1957 the number of skins treated was 8,960,044 of which muskrat comprised 48 p.c., Persian and other types of lamb 13 p.c., mink 14 p.c., squirrel 6 p.c. and rabbit 5 p.c.

* Prepared in the Industry and Merchandising Division, Dominion Bureau of Statistics.

8.—Principal Statistics of the Fur Dressing Industry, 1953-57

Item		1953	1954	1955	1956	1957
Establishments.....	No.	16	17	18	16	16
Employees on Salaries—						
Male.....	No.	74	84	92	97	102
Female.....	"	24	19	24	19	18
Employees on Wages—						
Male.....	No.	900	859	876	777	782
Female.....	"	216	180	170	159	157
Salaries paid.....	\$	440,036	437,131	538,703	600,687	748,838
Wages paid.....	\$	2,749,531	2,562,980	2,756,638	2,655,259	2,636,590
Cost of materials used (dyes, chemicals, etc.)	\$	1,026,173	963,538	1,121,805	1,057,850	1,248,961
Pelts treated.....	No.	11,001,366	9,279,897	9,762,062	9,119,334	8,960,044
Amount received for treatment of furs.....	\$	5,920,014	5,634,991	6,498,292	6,241,696	6,299,336

The major output of the fur goods industry is ladies' fur coats; in 1957 the number was 204,627 valued at \$47,685,570. Principal statistics of the industry for 1953-57 are given in Table 9.

9.—Principal Statistics of the Fur Goods Industry, 1953-57

Item		1953	1954	1955	1956	1957
Establishments.....	No.	600	581	558	522	540
Employees on Salaries—						
Male.....	No.	1,122	1,083	1,015	995	1,007
Female.....	"	314	282	257	243	226
Employees on Wages—						
Male.....	No.	2,745	2,435	2,369	2,199	2,214
Female.....	"	1,764	1,489	1,378	1,214	1,289
Salaries paid.....	\$	4,743,807	4,531,941	4,470,610	4,490,164	4,727,107
Wages paid.....	\$	11,103,947	9,816,442	9,652,509	9,675,793	10,307,339
Cost of materials used.....	\$	39,639,350	36,058,592	38,389,138	39,044,908	38,988,557
Value of factory shipments.....	\$	63,991,716	58,464,790	60,349,381	61,126,085	62,187,649

CHAPTER XIV.—MANUFACTURES

CONSPECTUS

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NOTE.—The interpretation of the symbols used in the tables throughout the Year Book will be found facing p. 1 of this volume.

This Chapter deals with manufacturing in Canada in three Parts. Part I reviews the manufacturing situation at the end of 1957, emphasizing particularly the fifteen leading industries. Also included is a commentary on the changing pattern of growth in manufacturing which became evident as a result of the recession that began in 1957. Part II provides general statistical analyses including manufacturing statistics from 1917; detailed treatment of 1956 production under various groupings and individual industries; and principal factors in manufacturing production such as capital expenditures and size of establishment. Part III deals with the provincial and local distribution of manufacturing production.

PART I.—REVIEW OF MANUFACTURING

Canada ranks about sixth among the industrial nations of the world. Manufacturing in 1957 contributed 28 p.c. to the gross domestic product at factor cost, which was almost as great a proportion as manufacturing holds in the United States, and about 26 p.c. of the employed population in Canada were working in manufacturing.

Basic historical developments, such as the opening of the West and the magnitude of requirements of all kinds for World Wars I and II, have been followed by recent events of far-reaching significance—the discovery of the major oil pool on the prairies in 1947, the discovery of large-scale deposits of iron and the successful search for uranium have given new dimensions to Canadian thinking and business planning. These factors explain the records of capital expenditures year by year in the postwar period. Yet it is not only rate of growth that is significant. There have been other periods when Canada's population has grown more rapidly and, in many respects, the rate of industrial expansion in the late 1920's was relatively as great as in the postwar years. But the real significance of the latter period is that never before has there been an advance on such a broad industrial front.

Canada's position as a trader is based largely on the country's natural resources, and is reflected in the industrial structure. Three industries stand out as major exporters—the pulp and paper mills, the non-ferrous smelting and refining plants, and the sawmills—all of them closely concerned with the processing of Canada's natural resources. The aluminum plants forming part of the smelting and refining industry are an exception since they process imported raw materials, but the reason for their location in Canada is the abundant supply of another natural resource—water power.

Slaughtering and meat packing and the butter and cheese industry, two other resource-based industries appearing among the leading fifteen in value of shipments, were once important exporters but are now occupied in supplying the home market because demand for their products from a larger and more wealthy population has increased faster than production. The bakeries and the manufacturers of miscellaneous food preparations are also turning out much greater quantities of food for the growing population. However, growth of population is only one way in which Canada is providing a domestic market for more and more industrial produce. The range of industries supplying domestic needs has greatly extended and at the same time the major export industries are finding a greater market for their products in Canada. Growth stimulates growth. Canada's mines, forest industries, transport systems and service trades expand, and that expansion requires building materials, machinery and equipment. Every new factory provides an increased market for capital goods and for raw materials or semi-finished products. Thus a growing market for existing products calls for increased output and a demand for new products springs up, which is met by imports until the market is able to support domestic production.

Despite a downturn in production in the autumn of the year, the manufacturing industries of Canada in 1957 established new highs in number of employees, salaries and wages paid and selling value of factory shipments. Shipments at \$22,183,594,311 were the highest on record and exceeded by 2.5 p.c. the high mark attained the previous year. The employment picture was not so impressive. Although there was an increase of 0.4 p.c. in persons employed in 1957 as compared with 1956, the number still was only 31,610 higher than the record employed in 1953. Salaries and wages paid at \$4,819,627,999 and value added by manufacture at \$9,822,084,726 exceeded the previous highs of 1956 by substantial margins. On the other hand, the physical output of manufactured products declined by 1.8 p.c. despite the small increase in number of employees; a drop of about 2 p.c. in the average number of hours worked per week in 1957 contributed to this result. The decrease in the volume of production, which contrasted with the increase in selling value of factory shipments was more or less accounted for by an increase in the wholesale prices of partly and fully manufactured goods. The output of non-durable goods recorded a minor increase of 0.9 p.c. but the production of durable goods was down by 4.6 p.c., resulting in a net decline of 1.8 p.c. for manufacturing as a whole. The total index for manufacturing in 1957 stood at 142.5; for non-durable goods it was 139.3 and for durable goods 146.2. Since the end of the War, both durable and non-durable goods experienced almost uninterrupted expansion in volume of production, the only exceptions being 1954 and 1957 for the former and 1954 for the latter. However, the durable goods sector increased by 92 p.c. between 1946 and 1956 while the non-durables advanced only 54 p.c. during the same period.

The high level at which the manufacturing industries of Canada operated during 1957 was the result of two main factors. First was the continued high spending on capital goods, such as construction and machinery and equipment of all kinds, which rose 8 p.c. from \$8,036,000,000 in 1956 to \$8,717,000,000 in 1957; construction was up by \$511,000,000 and expenditures for machinery and equipment by \$170,000,000. This high expenditure had the effect of stimulating certain durable goods industries to a marked degree. The volume of output of the hydraulic cement industry advanced 20.6 p.c., output of cement rising from 5,021,683 tons in 1956 to 6,049,098 tons in 1957. Bridge-building and structural steel was 15.8 p.c. higher, and heavy electrical machinery as well as industrial machinery and machine tools recorded minor gains. The output of the primary iron and steel industry dropped 5.9 p.c.; production of pig iron at 3,718,350 tons was 150,147 tons higher but

steel ingots and castings at 5,068,149 tons were 233,053 tons lower. The second factor was the impact on the consumer goods industries of the increase of about 543,000 in population and of the continued rise in labour income.

Lower export demand for Canadian manufactured products adversely affected manufacturing operations in 1957. The sharp decline in the export of planks and boards, shingles, veneer and plywood which occurred in 1956 continued throughout 1957. Exports of wood pulp, newsprint, whisky, wheat flour, aluminum and products, copper and products, zinc, automobiles and parts, fertilizers, and aircraft were all lower but there were increases in exports of farm implements and machinery, nickel, artificial crude abrasives, non-farm machinery and synthetic plastics and their manufactures.

The minor recession that commenced in the autumn of 1957 continued into 1958. Based on monthly returns by manufacturers, it is estimated that 1958 shipments were 2.0 p.c. lower at \$21,619,000,000, employment was 5.0 p.c. lower at 1,288,000 and salaries and wages paid were down 1.5 p.c. at \$4,752,000,000. The index of physical volume of production also declined, being 3.6 p.c. lower for manufacturing as a whole; the output of durable goods dropped 6.9 p.c. and non-durable goods 0.6 p.c.

Fifteen industries were responsible for 46 p.c. of the total shipments by manufacturers in 1957. Six of these were primarily engaged in meeting the requirements of the domestic consumer for goods required for current use—the four food-producing industries already mentioned, together with the petroleum products and rubber goods industries which are ancillary to the durable goods industries producing transportation equipment. The three major exporting industries have also been mentioned, and the remaining six of the fifteen leading industries are mainly occupied in meeting the requirements of Canadian industry for capital goods or materials, and the requirements of Canadian consumers for durable goods. The following were the fifteen leading industries in 1957 on the basis of value of factory shipments; the rank of each is shown in parentheses.

<i>Group and Industry</i>	<i>Rank</i>	<i>Shipments</i> \$'000,000
EXPORTING INDUSTRIES—		
Pulp and paper.....	(1)	1,411.9
Non-ferrous metal smelting and refining.....	(3)	1,280.1
Sawmills.....	(7)	555.7
CONSUMER GOODS INDUSTRIES—		
Petroleum products.....	(2)	1,376.6
Slaughtering and meat packing.....	(5)	907.1
Butter and cheese.....	(8)	469.9
Miscellaneous food preparations.....	(13)	336.3
Bread and other bakery products.....	(14)	331.1
Rubber goods, including footwear.....	(15)	326.1
CAPITAL GOODS INDUSTRIES—		
Motor vehicles.....	(4)	948.6
Primary iron and steel.....	(6)	704.6
Aircraft and parts.....	(9)	424.4
Railway rolling-stock.....	(10)	386.7
Miscellaneous electrical apparatus and supplies.....	(11)	381.1
Industrial machinery.....	(12)	363.0

The production of pulp and paper continues to be Canada's leading manufacturing industry, the selling value of factory shipments in 1957 totalling \$1,411,934,462. The pulp and paper mills are fed by the great coniferous forests, through which run extensive river systems. The rivers provide a means of transporting pulpwood to the mills and provide the power for generating the required electricity. The importance of cheap power to this industry is emphasized by the fact that, in 1957, it used about 30 p.c. of all the electricity utilized by Canadian manufacturers.

On the market side, there has been a great increase in the consumption of paper throughout the world, especially in North America. Increased education has advanced the sales of newspapers, books and other printed matter, and new uses are continually being found for paper—for building materials, packaging materials, insulation for electrical equipment, and for many other purposes. In 1957, 75 p.c. of the industry's shipments

consisted of paper—\$1,056,371,332 out of a total of \$1,411,934,462. Exports of paper and paper goods were valued at \$751,153,000 and exports of wood pulp at \$292,406,000. These exports, totalling \$1,043,559,000 accounted for 74 p.c. of production. The industry produced 10,425,000 tons of wood pulp in 1957, of which 2,283,000 tons were exported. The remainder, together with about 472,000 tons of other materials (mainly waste paper), was turned into about 8,300,000 tons of paper, including 6,362,000 tons of newsprint and 1,115,000 tons of paperboard; 5,900,000 tons of the newsprint were exported.

The petroleum products industry was the second largest of Canada's manufacturing industries, recording sales amounting to \$1,377,000,000 in 1957. The industry used about 8,335,000,000 gal. of crude oil in 1957, of which 53.5 p.c. was from Canadian wells. The refineries of Quebec and the Maritimes continued to operate on imported oil because of distance from Canada's western oil fields but the recent construction of pipelines has resulted in heavy consumption of Canadian crude by Ontario refineries. The growth of this industry in the past decade, advancing from ninth place in 1947 to second in 1957, has followed the discovery and development of the large oil resources of the Prairie Provinces, contributing to and benefiting from the rapid industrialization of Canada.

The last special study made of the net use of energy in Canada was completed in 1953. It showed an increase from about 1,088,000,000,000 B.t.u. in 1926 to about 2,171,000,000,000 in 1952. Though this growth partly resulted from heavier population, the wider use of energy was responsible for an increase in the net amount used per head of population from 115,000,000 B.t.u. in 1926 to 151,000,000 in 1952. The part played by liquid petroleum fuels in the total energy picture increased considerably over the period; in 1926, they supplied about 9 p.c. of Canada's net consumption of energy and in 1952 about 37 p.c. Although detailed statistics of the increase over the past six years are not available, it is obvious that the trend is continuing. At the time of the study, the advance was attributed to increased use by industry, a large increase in the consumption of fuel oil for heating homes and buildings, and the conversion of the railroads to diesel locomotives—three factors that have in no way lessened in more recent years.

The non-ferrous smelting and refining industry, Canada's third largest manufacturing industry, shipped products to the value of \$1,280,000,000 in 1957. Canada is one of the world's leading producers of non-ferrous metals, standing first in the production of nickel, second in aluminum, third in zinc, fourth in lead, and fifth in copper. These figures do not include the metallic content of exported ore. Canada is the world's leading exporter of non-ferrous metals.

Many of the country's most important base-metal ore bodies were discovered before the turn of the century, but their complexity prevented early exploitation. Unlike important deposits in other countries, which consist largely of oxides or of sulphides of a single metal, they were found to contain ores of two or more base metals intimately associated and frequently containing appreciable quantities of precious metals, such as gold, silver and platinum. Their development was the result of considerable skill and enterprise. The industry operates smelters and refineries that rank among the largest and most highly integrated of their kind in the world. Cheap water power located near the ore bodies is another advantage that enabled the industry to sell in world markets at competitive prices. The smelting industry is based largely on Canadian ores, with the major exception of the aluminum plants which import bauxite and alumina, depending on cheap electric power for their success in international trade. Exports of products of this industry in 1957 included nickel in various forms (\$248,000,000), aluminum in primary forms (\$217,000,000), copper in primary forms (\$155,000,000), zinc slab or cake (\$43,000,000) and pig lead (\$19,000,000). These together amounted to about \$682,000,000, or 45 p.c. of the total value of the industry's shipments.

Three of Canada's fifteen largest manufacturing industries are occupied in the production of transportation equipment; the motor vehicles industry ranked fourth in 1957 with sales of \$949,000,000, the aircraft and parts industry ninth with sales of \$424,000,000, and the railway rolling-stock industry tenth with sales of \$387,000,000.

The main items shipped by the motor vehicles industry were approximately 340,000 passenger cars valued at \$639,852,000, 71,400 trucks valued at \$141,086,000, and 444 buses valued at \$8,583,000. Of the vehicles shipped, 21,600 passenger cars worth \$23,000,000 (including 5,900 chassis without bodies) and 7,000 trucks worth about \$7,000,000 were shipped for export. Imports included about 70,800 passenger cars, 8,200 trucks and 1,000 buses, with a total value of \$136,000,000. Taking into account production, imports and exports, the apparent supply of new vehicles in Canada in 1957 was 389,000 passenger cars and 74,000 commercial vehicles. This new supply was offset by the withdrawal from use of about 201,000 passenger cars and 33,000 commercial vehicles. Total registrations during the year covered 3,383,000 passenger cars and 1,041,000 commercial vehicles so that there was one passenger car for every five persons in the country. Taking all motor vehicles together, including motorcycles and tractors, there was one vehicle for every four persons. Ontario has one of the world's heaviest concentrations of automobile ownership. In that province, there was one motor vehicle for every 3.2 persons.

Fifth in value of factory shipments in 1957 was the slaughtering and meat packing industry. With shipments valued at \$907,000,000, it was the leading industry of the foods group. Butter and cheese factories ranked eighth with sales of \$470,000,000, the miscellaneous food preparations industry thirteenth with sales of \$336,000,000, and bakeries fourteenth with sales of \$331,000,000. In terms of value added by manufacture, these industries, except for bakeries, would be considerably lower on the list. Their products are not so highly processed as are those of many other industries and much less is added in the manufacturing process to the value of their raw materials. Shipments by the slaughtering and meat packing industry included \$487,000,000 worth of fresh and frozen meats, \$137,000,000 worth of cured and smoked meats, and \$102,000,000 worth of sausage and cooked meats. Inedible by-products included \$105,000,000 worth of cattle hides. To produce these items, the industry slaughtered over 8,000,000 animals valued at \$516,000,000 in 1957.

Of the \$470,000,000 worth of shipments by butter and cheese factories in 1957, milk and cream sold as such brought in \$194,000,000, and ice cream \$39,000,000. About 286,000,000 lb. of butter and 120,000,000 lb. of cheese were shipped, together valued at \$210,000,000.

The miscellaneous food preparations industry, which ranked thirteenth with sales of \$336,000,000, depends largely on imported materials but sells almost entirely in the domestic market. Over one-third of the industry's activities are concerned with the roasting and packing of coffee, and the blending and packing of tea. Shipments of coffee were valued at \$68,000,000 and those of tea at \$47,000,000 in 1957.

The bread and other bakery products industry, which came fourteenth among the industries in 1957, produced goods to the value of \$331,000,000, all for the home market. Bread sales accounted for \$198,000,000 of this total; the average per capita consumption of bread was 99.7 lb., which was 1.6 lb. more than in 1955 but still 5.7 lb. less than in 1953.

The primary iron and steel industry in Canada has expanded considerably in recent years and important technical developments have been pioneered in this country, including the continuous casting of steel shapes and a faster process for the use of oxygen in steel-making. In 1957, shipments valued at \$705,000,000 placed the industry sixth among the industries of the country. Production amounted to 5,068,000 tons of steel. Few of the steel ingots produced were sold as such, nearly all of them being further processed by the makers. About 23 p.c. of the 3,718,000 tons of pig iron produced was sold to other firms. The industry is dominated by four integrated plants, two of them at Hamilton, Ont., and one each at Sydney, N.S., and Sault Ste. Marie, Ont. There are also other steel plants across the country which feed their furnaces on purchased pig iron and scrap, and two blast furnaces which do not form part of an integrated steel plant. The industry uses a good deal of Canadian iron ore and coke from Canadian coal, but imported ore is

mainly used. This is partly because some plants can ship ore more conveniently from United States mines than from Canadian mines, and partly because a blast furnace requires a range of different types of iron ore and must therefore rely on varied sources.

The lumber industry has been a mainstay of Canada's economy since the earliest days and in 1957 ranked as the seventh largest manufacturing industry of the country. In that year sawmill products shipped were valued at about \$556,000,000 and consisted mainly of lumber (\$466,000,000), shingles (\$14,000,000) and railroad ties (\$12,000,000). Of the lumber sawn, 60 p.c. by value was produced in British Columbia, 16 p.c. in Quebec, and 12 p.c. in Ontario. Softwoods made up 94 p.c. by quantity of the lumber sawn. Exports from Canada of planks, boards and shingles were valued at \$301,000,000 in 1957, as compared with \$414,000,000 in 1955. The decline in the export demand for Canadian sawmill products during the past few years resulted in a drop of about 14 p.c. in the physical volume of production of the sawmilling industry.

The production of aircraft and parts was a major industry in Canada during the Second World War but output declined abruptly afterwards. In 1950 production amounted to only \$55,000,000, but by 1957 total shipments had increased to \$424,443,000, including \$75,000,000 worth of parts alone, although this total remained well below the \$427,000,000 recorded in 1944. Part of the increase shown for 1957 was attributed to the inclusion for the first time of plants primarily engaged in the servicing and overhaul of aircraft, except for overhaul and servicing depots maintained by the major airlines and operated as part of their transport system. The postwar expansion of the industry began with the outbreak of hostilities in Korea in 1950 and has featured the development of an all-Canadian long-range fighter for northern defence and the production of several types of defence aircraft designed in the United States or the United Kingdom. The industry, however, is not dependent entirely on the defence program. Several types of civilian aircraft developed to meet Canadian flying conditions, especially in the vast areas of the North, have also met with a good response from users abroad. The expansion of aircraft production has been accompanied by the establishment of facilities for producing many components, such as aircraft instruments, needle bearings, and special alloys to withstand the heat of jet engines.

The railway rolling-stock industry, with shipments valued at \$387,000,000 in 1957, ranked tenth. In 1949 it ranked ninth, having declined in importance due to a drop of about 10 p.c. in volume of output. The fortunes of this industry are closely linked to those of the country's railways, since the demands made on it are dependent on the needs of the railways for new equipment and replacements.

The miscellaneous electrical apparatus and supplies industry, the main products of which are electric wire and cables, electric light bulbs and fluorescent tubes, made its first appearance among the top fifteen industries in 1954. In 1957 it was in eleventh place. This group includes only some of the electrical industries that have shown extremely rapid growth in recent years. While the miscellaneous industry shipped goods to the value of \$381,000,000 in 1957, the telecommunications equipment industry had a production valued at \$218,000,000, the heavy electrical machinery industry at \$301,000,000, the industries producing refrigerators, vacuum cleaners and appliances at \$136,000,000, and the batteries industry at \$42,000,000.

Twelfth in importance was the industrial machinery industry, with shipments valued at \$363,000,000 in 1957. Since 1952 this industry has experienced an increase of 23 p.c. in employment and 60 p.c. in the value of factory shipments, another reflection of the rapid industrialization of the past few years.

The rubber goods industry, fifteenth in the field with shipments of \$326,000,000 in 1957, depends mainly on the home market. It is heavily influenced by the automotive industry because tires and tubes together make up over half the shipments, the other major item being rubber footwear. Of the rubber used in 1957, 39.1 p.c. was imported natural rubber, 45.5 p.c. was domestically produced synthetic rubber and the remainder was reclaimed rubber.

STEEL IN CANADA*

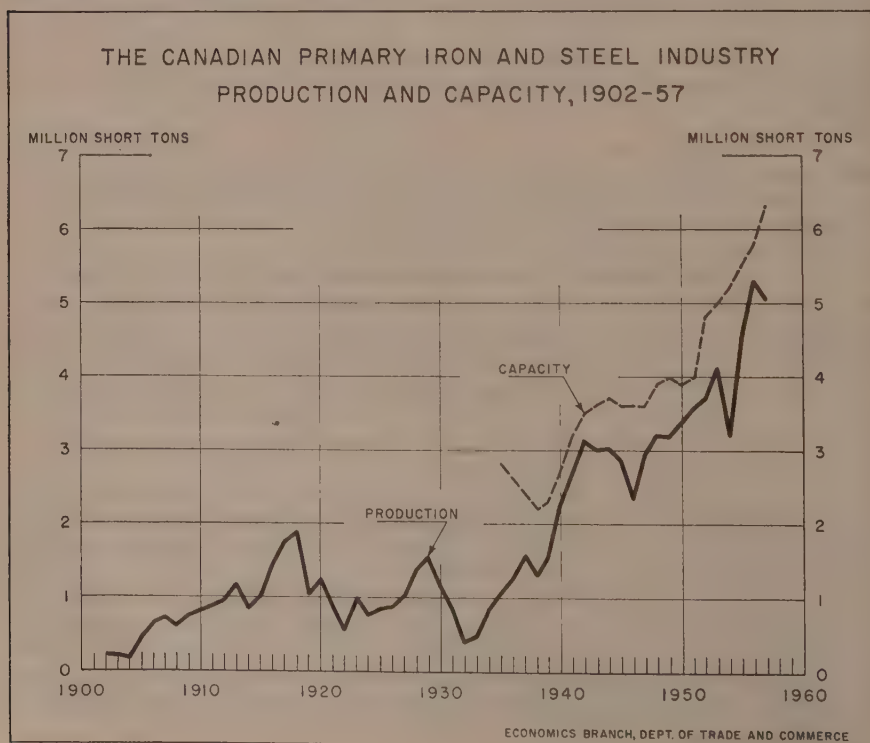
Primary steel production is now one of Canada's most important manufacturing industries, ranking sixth among all industries in terms of value of output, and fourth in terms of value added, by the processing of raw materials, to marketable products. In 1957, the industry employed about 36,000 persons making it the third largest employer of labour in Canadian manufacturing.

HISTORY

The steel industry in Canada traces its origins to the establishment of iron-producing facilities in the Province of Quebec about 1730 and to similar establishments founded in Eastern Canada during the next one hundred and fifty years. While some of these small enterprises enjoyed short-term success, all eventually were forced to cease operation. It was not until 1874 that the first steel was produced in Canada—a short-lived mill using the Siemens open-hearth process started operations not far from Truro, N.S. About the same time several steel rolling-mills using imported steel were established in various parts of the country and by 1905 most of the major mills which today comprise a large portion of Canada's steel industry had been brought into operation. Their establishment and success was attributable to two important factors—the development of a national tariff policy and the demand for steel by the railways in the form of rails and rolling-stock.

Production increased rapidly between 1900 and 1914 and during World War I capacity was further increased to meet wartime requirements, so much so that there was an excess of steel-making capacity in Canada for a considerable period after the end of that War.⁴

* Prepared by E. Westbrook and F. M. Pelletier, Domestic Industry Analysis Division, Economics Branch, Department of Trade and Commerce, Ottawa.



Despite this over-expansion and the limited requirements during the two depression periods of the 1920's and 1930's, Canada's steel ingot capacity increased from 1,600,000 tons in 1918 to 2,200,000 tons in 1939. During this period a general consolidation took place which led to the forming of the large companies which today are the principal steel producers. At the same time there was a relative decline in the railways' demand for steel, and a new type of demand made its appearance based on the consumer durable goods industries which had begun to grow during this period. The Second World War led to a further round of steel expansion and, by the end of that conflict, Canadian steel capacity was 30 p.c. higher than it had been in 1939 and was capable of producing greater varieties and forms of steel.

I.—STEEL CAPACITY, PRODUCTION AND CONSUMPTION, SELECTED YEARS 1910-57

(Millions of tons)

SOURCES: Department of Mines and Technical Surveys publication *Metallurgical Works in Canada, Pt. I*; DBS reports *Iron and Steel and Their Products in Canada* and *The Primary Iron and Steel Industry*.

As at Dec. 31—	Capacity	Production	Consumption ¹
1910.....	0.9	0.8	1.9
1920.....	1.7	1.2	2.0
1930.....	1.8	1.1	2.2
1940.....	2.8	2.2	2.9
1945.....	3.6	2.9	3.5
1950.....	3.9	3.4	4.4
1955.....	5.5	4.5	5.4
1956.....	5.8	5.3	7.8
1957.....	6.3	5.0	7.6

¹ On an equivalent steel ingots and castings basis.

However, it will be seen from the above table that the Canadian steel industry has undergone its most important period of development since 1945. It was during this postwar period that steel production became an integrated operation. Today the industry produces an almost complete range of all types of steel rolling-mill products. Particularly noticeable are the additions to the capacity to produce hot and cold rolled sheet and strip and also galvanized sheet and tinplate. By the end of 1957 Canadian capacity to produce pipe was four times greater than in 1945. Present total Canadian capacity to produce steel is around 6,300,000 tons a year making this country the seventh largest producer in the world. In per capita capacity Canada ranks sixth among the nations of the world, but in per capita consumption Canada is exceeded only by the United States.

II.—STEEL PRODUCTION CAPACITY AND CONSUMPTION PER CAPITA OF MAJOR PRODUCING COUNTRIES

SOURCES: DBS reports *Iron and Steel and Their Products in Canada* and *The Primary Iron and Steel Industry*; United Nations Statistical Yearbooks; U.S. Department of Commerce report *International Iron and Steel*.

Country	Capacity 1957		Consumption 1956
	Millions of Tons	P.C. of World Total	lb. per Capita
United States.....	134	38.5	1,323
Canada.....	6	1.7	973
West Germany.....	27	8.0	919
Sweden.....	3	0.8	849
United Kingdom.....	25	7.1	838
Australia.....	3	0.8	705
Belgium-Luxembourg.....	12	3.3	652
Norway.....	0.3	0.1	622
France.....	16	4.5	608
Union of Soviet Socialist Republics.....	56	16.2	600
Netherlands.....	1	0.3	522

STEEL-MAKING FACILITIES

The raw materials situation of the Canadian steel industry is unusual. Most of the coal consumed by the industry is imported. The Dominion Steel and Coal Corporation at Sydney, N.S., is the only producer using Canadian coal; the others make their coke from coal mined in United States coalfields which are adjacent to their steel-making facilities in Canada. A considerable quantity of iron ore is also imported from the United States, where Canadian producers have important holdings, but major iron-ore discoveries in Canada in recent years have led to a greater consumption of Canadian iron ore in this country. Canadian capacity to produce pig iron is now approximately 4,100,000 tons annually compared with 2,700,000 tons in 1946. Not only has steel production become more integrated in total but a better balance has been achieved in the individual mills between their basic steel-making facilities and their rolling-mill capacities.

Nearly all of the carbon steel made in Canada is a product of open-hearth furnaces, although Canada now has a number of basic oxygen furnaces in operation. These oxygen facilities have all been introduced since 1954 and are based on the LD-steel-making* technique originally developed in Austria. Almost all the high-quality alloy steels made in Canada are electric furnace products. Most of the major producers have such facilities and also a small number of producers specialize in the production of quality steels. All the smaller bar producers use electric furnaces to make molten metal from scrap. An interesting postwar development at one Canadian mill has been the introduction of a continuous casting machine, which pours molten steel directly into a workable slab. This installation is part of a mill which produces stainless steel sheet, strip, tube, bar and rod.

ROLLING-MILL CAPACITY

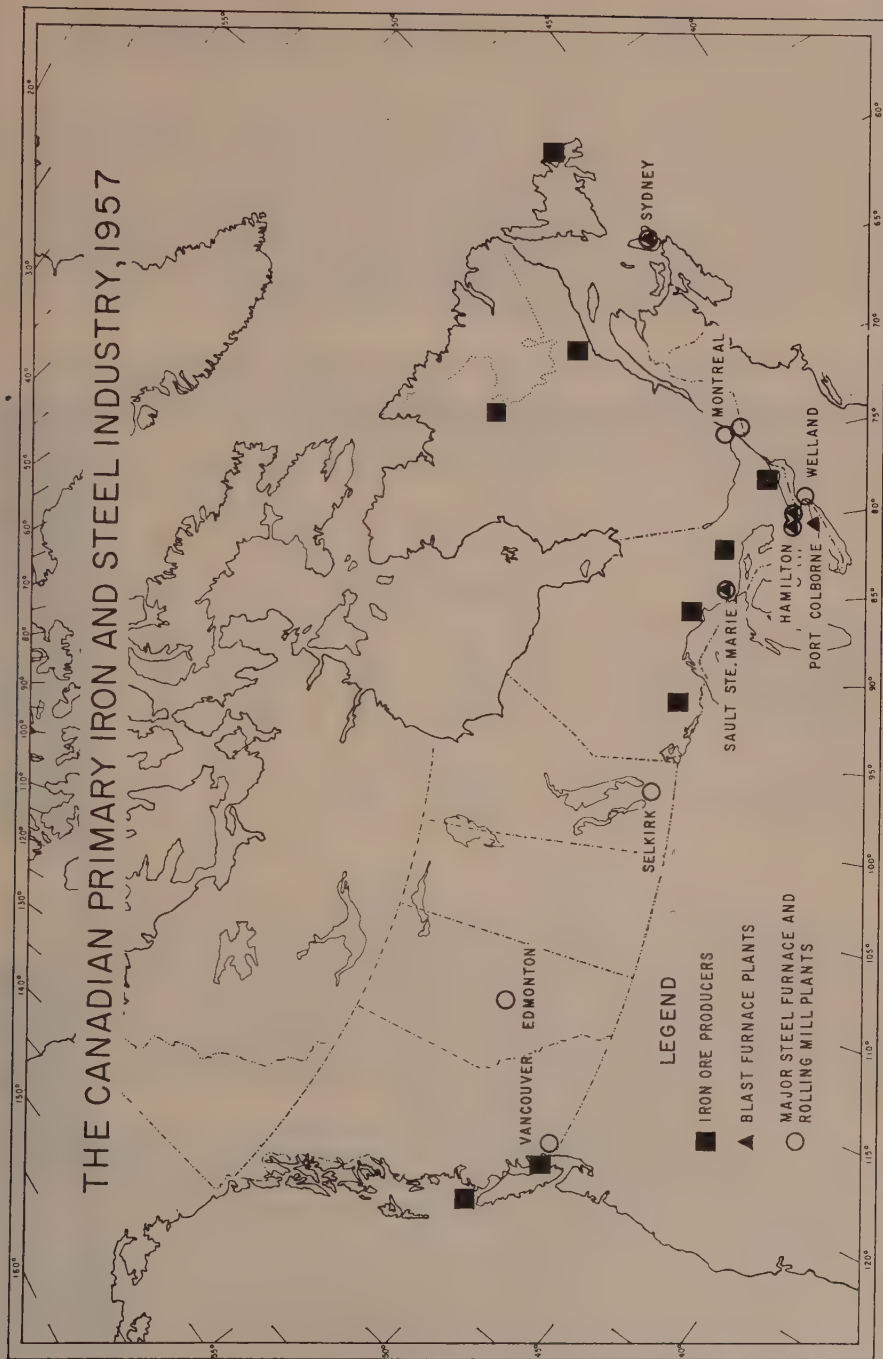
Perhaps the most important advances that have occurred in the postwar years have been in the field of rolling-mill capacity. For instance, three new blooming mills were put in operation, without which there would have been little expansion in other fields of the steel industry. For it is in the blooming mill that steel ingots are rolled into blooms and slabs and it is from these forms that all the other rolling-mill products are made—blooms are the primary form of bars, wire and other products of this type, while sheet and other flat-rolled products are made from slabs. Blooms are sent to a billet mill and slabs to a plate mill. In 1945 Canada had capacity to produce 198,000 tons of structural steel a year; today structural capacity is about 374,000 tons and the number of types and sizes have increased notably. However, Canada's capacity to produce structurals is still considerably short of meeting domestic requirements in years of peak demand, a situation attributable to the occurrence of wide fluctuations in demand and to the existence of a relatively low tariff. Another factor is the low value of structurals per ton of steel and the shortness of runs in a high-volume operation. Canadian mills therefore have preferred to invest in those sectors of the industry where there is a greater return per dollar invested.

After the end of the War in 1945, it was necessary to make adjustments in connection with the additions to Canadian plate mill capacity made to meet wartime requirements. Thus by 1948 plate mill capacity was lower than it was in 1945. Since 1948, plate capacity, through the expansion and conversion of existing facilities, increased from 220,000 tons in 1948 to 472,000 tons in 1957. The first new addition to facilities was a large plate mill completed early in 1959. The great resource-development program of recent years has probably been the most important factor leading to this expansion, in addition to the heavy demand for large-size pipe for the transportation of oil and gas across the country.

Bar and rod capacity has also expanded and, though perhaps overshadowed by developments in other types of steel, it should be remembered that many of the present-day mills began their operations with the output of these products. New trends in building construction have necessitated an increase in the production capacity for reinforcing bars. There has also been an increase in the capacity to produce cold rolled bars, though the

* Linz-Donowitz steel-making technique.

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volume is still small relative to other types of steel. An interesting development is the establishment of two new bar and rod mills in Western Canada since the end of the War, one at Edmonton and one at Vancouver.

The dramatic expansion that has taken place in Canada's capacity to produce sheet and strip has already been mentioned. In 1945 Canada could produce 356,000 tons of hot rolled sheet and strip; by 1957 Canadian mills had a capacity in excess of 1,000,000 tons. In 1945 cold-rolled sheet and strip capacity amounted to 324,000 tons; today it is more than 681,000 tons. At the end of World War II, galvanized sheet and tinplate capacity together amounted to 434,000 tons; today Canada has a productive capacity of 319,000 tons of galvanized sheet and 368,000 tons of tinplate annually. These increases may be attributed mainly to the high level of housing construction, to the demand for consumer durables and to the displacement of imports since 1948.

III.—ROLLING-MILL CAPACITY OF MAJOR STEEL PRODUCTS, SELECTED YEARS 1945-57

NOTE.—Estimated capacity shown is the maximum annual potential capacity, i.e., for a continuous strip-sheet mill capable of producing both plates and sheets, the full capacity of the mill to produce each product is included. Therefore capacity for each of the principal classes shown cannot be totalled.

SOURCES: Department of Mines and Technical Surveys publication *Metallurgical Works in Canada, Pt. I*, and American Iron and Steel Institute.

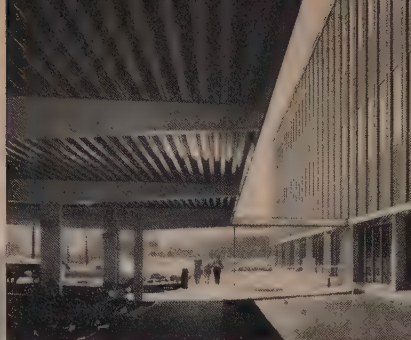
Type of Steel	1945	1948	1951	1954	1957
	'000 tons	'000 tons	'000 tons	'000 tons	'000 tons
HOT-ROLLED STEEL PRODUCTS—					
Structurals.....	198	218	223	467	374
Plate.....	397	220	253	322	472
Bar and rod.....	1,071	1,102	1,089	1,044	1,150
Bar (concrete reinforcement).....	106	77	93	199	246
Sheet and strip.....	356	402	333	703	1,012
Rails.....	631 ¹	457	457	437	430
COLD-ROLLED AND OTHER SELECTED FINISHED PRODUCTS—					
Sheet and strip (cold-rolled).....	324	322	..	431	681
Other sheet and strip.....	434	485	..	437	657
Pipe and tubing.....	289	289	..	464	1,236

¹ Includes a large quantity of track materials.

Rail and track material capacity remained almost unchanged from the beginning of the century following the period of rapid railroad expansion. While the production of these items may not have the relative importance they once had, nevertheless they are often important factors in maintaining employment during seasonal off-peak periods. The production of wire rod and wire products (nails, wire and fencing) is another area of the steel industry that has not experienced the growth evident elsewhere. This can be attributed in large part to competition from imports and also to changes in the pattern of domestic demand. An example of the latter is the decline in the demand for barbed wire as a result of the greater use of electric fencing.

The greatest increase in capacity has occurred in that part of the steel industry producing pipe and tube. In 1945 Canadian mills were limited to the production of the smaller sizes of pipe used in housing and commercial construction and maintenance but the discovery and development of the Alberta oil and gas fields created an urgent demand for transmission-line pipe and well casing. Most of this demand was at first met from abroad, but Canadian pipe mills, constructed in various parts of the country, are now capable of meeting the domestic requirement for nearly all types of pipe. In 1945 total capacity to produce pipe was about 289,000 tons; today Canada can produce 1,236,200 tons annually. In 1946 the maximum size of pipe that could be produced was 16 inches; today pipe up to 36 inches in diameter is made in Canadian mills. Pipe production in 1946 was limited to the output of butt-weld and electric-weld pipe; today Canada includes

Steel is a vital element in the economy—basic to almost every manufacturing industry and basic to the construction projects that are adding to the wealth of the country. New capacity, technical improvements and diversification of product have increased efficiency and stabilized the industry which now produces about 75 p.c. of domestic consumption. Canadian steel is used most extensively in construction, in railway equipment, in oil and gas pipelines and in the making of merchant trade goods and containers—these items taking about 63 p.c. of the output. Machine tools, exports, motor vehicles and pressed and stamped goods take most of the remainder.



Building Construction—17.7 p.c.



Pressing, Forming and Stamping—4.3 p.c.



Automotive Industries—5.2 p.c.



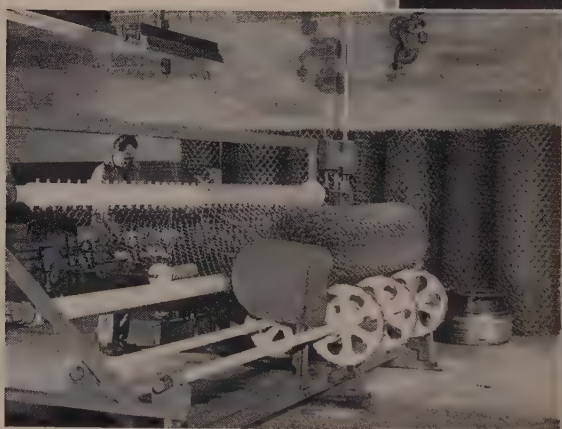
Exports—5.5 p.c.



Railways—15.4 p.c.



Pipes and Tubes—12.1 p.c.

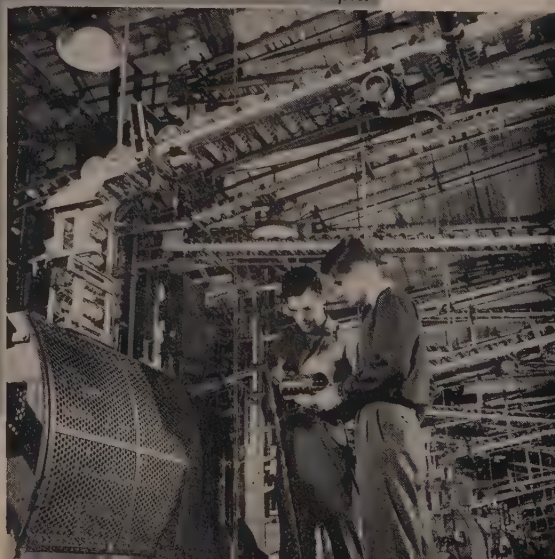


Merchant Trade Goods—10.0 p.c.



Machinery and Tools—6.0 p.c.

Containers—7.7 p.c.



in its pipe-making facilities one of the most modern seamless pipe mills in the world. Interesting also is the distribution of these facilities across the country—pipe mills are now operating in Quebec, Ontario, Saskatchewan, Alberta and British Columbia.

CONSUMPTION OF CANADIAN-MADE STEEL

An important feature of the postwar development of the Canadian steel industry has been the changing pattern of Canadian demand for domestically produced steel. The following table shows the changing position of the steel industry's major customers.

IV.—DISTRIBUTION OF CANADIAN-MADE STEEL TO PRINCIPAL CONSUMERS, SELECTED YEARS 1946-57

SOURCE: DBS report *The Primary Iron and Steel Industry*.

Consumer	1946		1950		1953		1955		1957	
	'000 tons	p.c.	'000 tons	p.c.	'000 tons	p.c.	'000 tons	p.c.	'000 tons	p.c.
Building construction.....	189.8	9.9	357.6	12.6	434.8	13.4	517.7	14.3	680.1	17.7
Railway cars and locomotives (incl. operating).....	411.8	21.4	500.6	17.7	628.7	19.5	359.1	9.9	591.3	15.4
Merchant trade products.....	226.6	11.8	358.1	12.6	358.5	11.1	437.6	12.1	382.4	10.0
Wholesalers and warehouses.....	262.0	13.7	314.2	11.1	423.0	13.1	490.0	13.5	363.4	9.5
Containers industry.....	164.4	8.6	262.0	9.2	269.9	8.3	336.2	9.3	297.6	7.7
Machinery and tools.....	163.4	5.4	116.9	4.1	158.2	4.9	208.4	5.7	228.9	6.0
Direct exports.....	145.3	7.6	218.8	7.7	150.9	4.7	402.1	11.0	212.1	5.5
Automotive industries.....	84.0	4.4	200.1	7.1	289.6	8.9	254.5	7.0	198.9	5.2
Pressing, forming and stamping.....	87.8	4.6	187.1	6.6	153.2	4.7	258.9	7.1	164.3	4.3
All others.....	242.8	12.6	317.4	11.3	369.5	11.4	362.7	10.1	721.2	18.7

Throughout the period, there has been an almost continuing shift towards a relatively greater steel consumption by the producer and consumer durables sector of the economy. In this apparent movement there is implied not only a greater maturity of the Canadian steel industry by its ability to supply a greater variety and quality of rolling-mill products, but also a trend towards the more complete processing of its products by Canadian industry. Nevertheless, the greatest increases in steel consumption since 1946 have occurred in the construction industry, which rose by 258 p.c., followed by the automobile industry with an increase in consumption of 136 p.c., and machinery and tools with 121 p.c.

LABOUR FORCE

The primary steel industry now employs almost 36,000 persons and in addition provides jobs for nearly 200,000 Canadians in directly related industries. Employment has increased by 17 p.c. since 1945. Average weekly earnings are now about \$95 a week, fourth highest among the manufacturing industries. Average hourly rates in 1958 were \$2.20 per hour, second only to those paid by the petroleum and coal products industries.

FOREIGN TRADE

Canada has never been a major exporter of steel; exports have exceeded 200,000 tons only during periods of world steel shortage, or when there has been an excess of steel in the domestic market and Canadian producers have sought to maintain output by exporting. In recent years, most of the steel export trade has been concentrated in pig iron and railroad rails. Over 17 p.c. of all the rails produced in Canada have been exported in the past five years. These orders have been obtained despite severe competition from foreign producers, for there is a general excess of rail-making capacity in the world.

Steel imports have always been a major factor in the Canadian economy, and while domestic capacity has expanded considerably in recent years, imports have made up an average of approximately 30 p.c. of total consumption since 1946. During periods of

pronounced expansion the percentage increases, as in 1951 when it was 34 p.c.; conversely in periods of slower growth it declines, as in 1954 when imports accounted for about 25 p.c. of the Canadian market.

Imports have held an almost continuously larger share of the market for structurals and piling than for any other type of steel. Since 1946 structural imports averaged 56 p.c. of Canadian consumption of this type of steel. Such imports are particularly important in those periods in which there is considerable resource investment. Canadian capacity to produce structurals has averaged less than 60 p.c. of total requirements during the past five years.

V.—IMPORTS AND EXPORTS OF STEEL ROLLING-MILL PRODUCTS, 1946-57

NOTE.—Primary rolling-mill products only are included and not such secondary products as pipe, wire, nails and stampings. SOURCE: DBS report *The Primary Iron and Steel Industry*.

Year	Imports	Exports	Year	Imports	Exports
	'000 tons	'000 tons		'000 tons	'000 tons
1946.....	655	105	1952.....	1,187	73
1947.....	818	98	1953.....	1,001	116
1948.....	779	233	1954.....	764	36
1949.....	964	142	1955.....	929	165
1950.....	834	59	1956.....	1,609	158
1951.....	1,318	46	1957.....	1,493	205

Imports of plates are an important item and have accounted on the average for 41 p.c. of the total plate market since 1946. Plates are associated with the resource-development program and, in particular, the manufacture of the large-size transmission pipe. At present Canada's capacity to produce wide plate is limited, and this size of plate has always had a considerable import volume. The expansion of Canadian plate facilities now under way should in the future effect a decline in the share of the market held by plate imports.

On the other hand, Canadian producers of bar and rod have traditionally held a large share of the market, and imports have accounted for only 12 p.c. of total demand since 1946. Imports are usually important only in those years in which domestic demand is well in excess of Canadian supply. The most important import of this type of steel is hot-rolled bars.

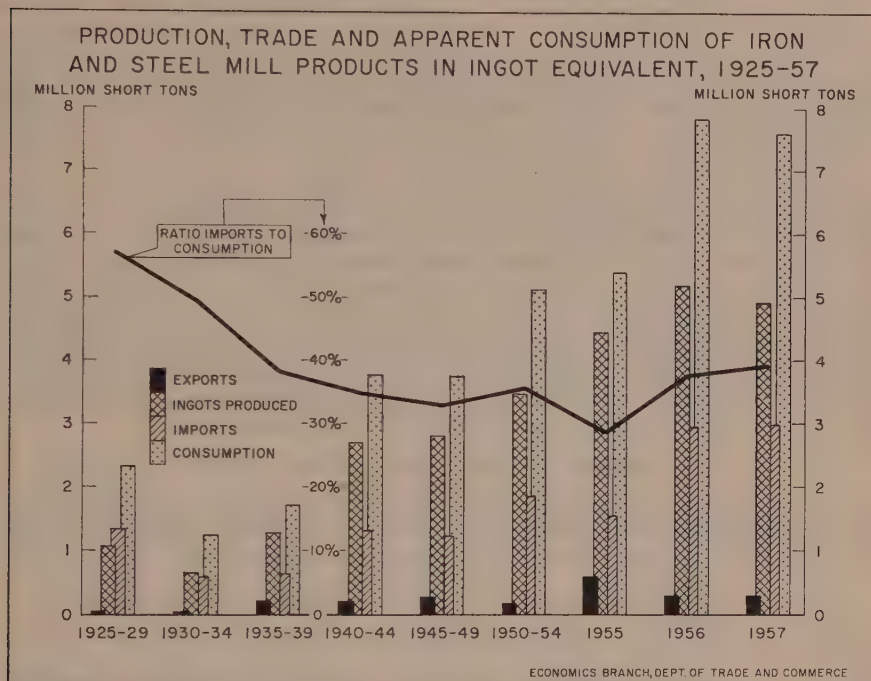
VI.—IMPORTS OF MAJOR STEEL ROLLING-MILL PRODUCTS, SELECTED YEARS 1946-57

SOURCE: DBS report *The Primary Iron and Steel Industry*.

Type of Steel	1946	1948	1950	1953	1957
	'000 tons	'000 tons	'000 tons	'000 tons	'000 tons
Structurals.....	95	162	158	254	543
Plate.....	60	66	107	154	311
Bar and rod.....	99	121	85	132	144
Sheet and strip.....	326	342	285	304	201
Pipe and tube.....	41	75	204	300	722

Steel sheet and strip imports have averaged 37 p.c. of total domestic consumption of this type of steel since 1946, but with increasing Canadian capacity the import trend is downward, particularly of galvanized sheet and cold-rolled sheet and strip. Pipes and tubes have been major import items since 1950, noticeably so in oil country goods. However, the growth in domestic capacity to produce pipe and tube has reached the point where it can meet all Canadian requirements and will offer serious competition to foreign producers in the domestic market. Imports of wire, fencing and rails have also been extensive. Unlike many other steel imports, which generally reach their peak in periods of short supply, imports of these items have been almost continuously in direct competition with Canadian producers. Canadian capacity to produce wire, fencing and rails is generally in excess of domestic demand.

About 80 p.c. of the steel imported into Canada since 1956 came from the United States, 10 p.c. from the United Kingdom, 6.5 p.c. from Belgium and about 1 p.c. from Germany.



It is evident that the long-run trend indicates an increase in steel consumption in Canada, but there can be considerable fluctuation in short-run tendencies which present even greater difficulties for producers of individual types and forms of steel. One of the major problems, then, of the Canadian steel industry is to judge when the market has grown sufficiently for the expansion of facilities. Since 1946 the industry has invested over \$498,000,000 in new plant and equipment, placing it fourth among all manufacturing industries in terms of new investment since the end of World War II. There is every indication that investment will continue at the same pace in the future. It is particularly noteworthy that not only has there been a considerable volume of capital expenditure, but the industry has been willing to invest in new techniques and processes well ahead of many other major steel-producing countries. The budget of June 1958 included a major revision in the tariff items relating to steel rolling-mill products and steel pipes and tubes. This change was the first thorough review of the tariff in over fifty years. It eliminated many items that had fallen into disuse and offered incentives for the expansion of the domestic industry to meet the future needs of Canadian industry, construction and transportation. Though the Canadian per capita consumption of 973 lb. a year is still considerably below the United States figure of 1,323 lb., the gap has narrowed in recent years and gives every indication of continuing to do so. This, along with a steadily rising population, presents a bright future for the Canadian steel industry.

PART II.—STATISTICS OF MANUFACTURING

Section 1.—Growth of Manufacturing

It is impossible to give absolutely comparable statistics of manufacturing over a long period of years. From 1870 to 1915 statistics were collected only in connection with decennial or quinquennial censuses and there was inevitably some variation in the information collected. The annual Census of Manufactures was instituted in 1917 and, though numerous changes have been made since then in the information collected and the treatment of the data, an effort has been made to carry all major revisions back to 1917, so that the figures for the period since then are on a reasonably comparable basis.

The Bureau of Statistics in 1952 changed its policy with regard to the collection of statistics on the production of manufactured goods. Firms in several industries where year-end inventory changes were known to be insignificant were requested to report value of shipments f.o.b. plant instead of gross value of products. Under the "value of products" concept, establishments were asked to report the factory selling value of the products made whether sold or not, the unsold portion being assigned the average selling value of similar articles sold during the year. Under the "selling value of shipments" concept, establishments are required to report their sales during the year regardless of when the products were made, an item usually readily available from the firms' records. The changeover was made to provide increased ease in reporting for the majority of plants and at the same time to produce more reliable and useful statistics.

1.—Summary Statistics of Manufactures, 1917-56

NOTE.—Statistics of manufacturing from 1870 have been published but between that year and 1917 figures are not on a comparable basis to the series given below. Statistics for significant years appear in the 1943-44 Year Book, p. 363. Figures of the non-ferrous metal smelting industries were first included with manufactures in 1925.

Year	Estab- lish- ments	Employees	Salaries and Wages	Cost at Plant of Materials Used	Value Added by Manufacture ¹	Gross Value of Products ²
	No.	No.	\$	\$	\$	\$
1917.....	21,845	606,523	497,801,844	1,539,678,811	1,281,131,980	2,820,810,791
1918.....	21,777	602,179	567,991,171	1,827,631,548	1,399,794,849	3,227,426,397
1919.....	22,083	594,066	601,715,668	1,779,056,765	1,442,400,638	3,221,457,403
1920.....	22,532	598,893	717,493,876	2,085,271,649	1,621,273,348	3,706,544,997
1921.....	20,848	438,555	497,399,761	1,365,292,885	1,123,694,263	2,488,987,148
1922.....	21,016	456,256	489,397,230	1,272,651,585	1,103,266,106	2,375,917,691
1923.....	21,080	506,203	549,529,631	1,456,595,367	1,206,332,107	2,662,927,474
1924.....	20,709	487,610	534,467,675	1,422,573,946	1,075,458,459	2,570,561,931
1925 ³	20,981	522,924	569,944,442	1,571,788,252	1,167,936,726	2,816,864,958
1926 ³	21,301	559,161	625,682,242	1,712,519,991	1,305,168,549	3,100,604,637
1927 ³	21,501	595,052	662,705,332	1,741,128,711	1,427,640,292	3,257,214,876
1928 ³	21,973	631,429	721,471,634	1,894,027,188	1,597,887,676	3,582,345,302
1929 ³	22,216	666,531	777,291,217	2,029,670,813	1,755,386,937	3,883,446,116
1930 ³	22,618	614,696	697,555,378	1,664,787,763	1,622,737,125	3,280,236,603
1931.....	23,083	628,640	587,566,990	1,221,911,982	1,252,017,248	2,555,126,448
1932.....	23,102	648,833	473,601,716	954,381,097	955,960,724	1,980,417,543
1933.....	23,780	468,658	436,247,824	967,788,923	919,671,181	1,954,075,785
1934.....	24,209	519,812	503,851,055	1,229,513,621	1,087,301,742	2,393,692,729
1935.....	24,034	556,664	559,467,777	1,419,146,217	1,153,485,104	2,653,911,209
1936.....	24,202	594,359	612,071,434	1,624,213,996	1,289,592,672	3,002,403,814
1937.....	24,834	660,451	721,727,037	2,006,926,787	1,508,924,867	3,255,459,500
1938.....	25,200	642,016	705,668,589	1,807,478,028	1,428,286,778	3,337,681,366
1939.....	24,805	658,114	737,811,153	1,836,150,375	1,531,051,901	3,474,783,528
1940.....	25,513	762,244	920,872,865	2,449,721,903	1,942,471,238	4,529,173,316
1941.....	26,293	961,178	1,264,862,643	3,296,547,019	2,605,119,788	6,076,308,124
1942.....	27,862	1,152,091	1,682,804,842	4,037,102,725	3,309,973,758	7,553,794,972
1943.....	27,652	1,241,068	1,987,292,384	4,690,493,083	3,816,413,541	8,732,860,999
1944.....	28,483	1,222,882	2,029,621,370	4,832,333,356	4,015,776,010	9,073,692,519
1945.....	29,050	1,119,372	1,845,773,449	4,473,668,847	3,564,315,899	8,250,368,866
1946.....	31,249	1,058,156	1,740,687,254	4,358,284,766	3,467,004,980	8,035,692,471

For footnotes, see end of table.

1.—Summary Statistics of Manufactures, 1917-56—concluded

Year	Estab- lish- ments	Employees	Salaries and Wages	Cost at Plant of Materials Used	Value Added by Manufacture ¹	Gross Value of Products ²
	No.	No.	\$	\$	\$	\$
1917.....	32,734	1,131,750	2,085,925,966	5,534,280,019	4,292,055,802	10,081,026,580
1918.....	33,420	1,155,721	2,409,368,190	6,632,881,628	4,938,786,981	11,875,169,685
1919 ⁴	35,792	1,171,207	2,591,890,657	6,843,231,064	5,330,566,434	12,479,593,300
1950 ⁴	35,942	1,183,297	2,771,267,435	7,538,534,532	5,942,058,229	13,817,526,381
1951.....	37,021	1,258,375	3,276,280,917	9,074,526,353	6,940,946,783	16,392,187,132
1952.....	37,929	1,288,382	3,637,620,160	9,146,172,494	7,443,533,199	16,982,687,035
1953.....	38,107	1,327,451	3,957,018,348	9,380,558,682	7,993,069,351	17,785,416,854
1954.....	38,028	1,267,966	3,896,687,691	9,241,857,554	7,902,124,137	17,554,527,504
1955.....	35,182	1,298,461	4,142,409,534	10,338,202,165	8,753,450,496	19,513,933,811
1956.....	37,428	1,353,020	4,570,692,190	11,721,536,889	9,605,424,579	21,636,748,986

¹ For 1924-51, inclusive, the value added by manufacture is computed by subtracting the cost of fuel, electricity and materials from the gross value of products; for 1952 and 1953 the deduction is made from value of factory shipments and for 1954 and subsequent years from the calculated value of production. Figures prior to 1924 are not comparable because statistics for cost of electricity are not available. ² In 1952 gross value of products was replaced by selling value of factory shipments; see text immediately preceding this table. ³ A change in the method of computing the number of employees in the years 1925 to 1930, inclusive, increased the number somewhat over that which the method otherwise used would have given. In 1931, however, the method in force prior to 1925 was re-adopted. ⁴ Newfoundland is included from 1949 but figures for the fish processing industry for 1949 and 1950 are not available for that province and are not included.

Provincial distribution of manufactures is shown for certain years from 1917 to 1956 in Table 2.

2.—Summary Statistics of Manufactures, by Province, Certain Years 1917-56

Province and Year	Estab- lish- ments	Employees	Salaries and Wages	Cost at Plant of Materials Used	Value Added by Manufacture ¹	Gross Value of Products ²
	No.	No.	\$	\$	\$	\$
Newfoundland—						
1917 ⁴	793	6,934	15,486,336	31,228,173	32,918,776	67,264,282
1953.....	939	10,575	26,604,908	44,972,021	57,784,697	106,524,603
1954.....	790	9,892	30,101,186	46,503,032	59,483,922	109,567,770
1955.....	785	10,361	28,604,468	49,914,866	60,586,922	115,579,036
1956.....	783	10,602	30,462,735	55,461,956	62,607,709	123,691,344
Prince Edward Island—						
1917.....	411	1,556	663,251	3,087,621	1,750,135	4,837,756
1920.....	370	1,287	855,210	4,164,223	2,135,857	6,300,080
1929 ⁴	263	2,074	727,286	2,882,725	1,466,446	4,408,608
1933.....	249	991	529,684	1,590,834	1,126,826	2,775,787
1939.....	222	1,088	617,945	2,239,117	1,243,979	3,543,681
1944.....	241	1,786	1,694,763	6,993,510	3,570,835	10,713,644
1946.....	246	1,755	1,651,469	7,582,046	3,469,435	11,200,310
1949.....	251	1,747	2,133,555	13,537,144	4,338,320	18,123,200
1953.....	216	1,809	3,095,845	16,963,798	5,878,761	23,198,970
1954.....	209	1,774	3,000,211	17,001,551	6,044,749	23,469,743
1955.....	204	1,769	3,074,085	16,803,035	6,431,660	23,628,831
1956.....	192	1,775	3,233,404	17,806,842	6,161,628	24,497,245
Nova Scotia—						
1917.....	1,337	25,252	18,838,051	102,415,215	57,565,703	159,980,918
1920.....	1,345	23,425	25,625,089	85,724,785	61,371,243	147,096,028
1929 ⁴	1,094	19,086	16,905,885	50,725,562	35,676,421	89,787,548
1933.....	1,277	12,211	9,604,680	25,354,319	19,988,257	47,912,432
1939.....	1,083	17,627	16,651,685	43,332,195	35,885,563	83,139,572
1944.....	1,281	37,812	59,940,411	103,463,123	93,376,638	204,421,664
1946.....	1,397	29,724	43,060,259	100,354,480	71,738,873	178,793,420
1949.....	1,480	29,311	54,686,577	135,841,899	102,294,298	247,692,389
1953.....	1,591	32,040	76,390,755	180,543,535	127,917,165	320,012,264
1954.....	1,526	29,611	71,740,240	161,294,872	129,777,850	300,072,733
1955.....	1,524	30,218	76,555,923	175,194,419	139,646,423	331,129,690
1956.....	1,402	30,937	83,948,510	214,779,069	159,820,242	384,398,103

For footnotes, see end of table, p. 629.

2.—Summary Statistics of Manufactures, by Province, Certain Years 1917-56—continued

Province and Year	Estab- lish- ments	Employees	Salaries and Wages	Cost at Plant of Materials Used	Value Added by Manufacture ¹	Gross Value of Products ²
	No.	No.	\$	\$	\$	\$
New Brunswick—						
1917.....	943	19,710	12,893,014	32,380,621	27,027,725	59,408,346
1920.....	901	19,007	19,266,821	60,812,641	45,803,164	108,615,805
1929 ⁴	803	17,952	15,127,716	39,800,366	26,640,786	68,145,012
1933.....	747	11,336	9,308,100	20,442,421	18,166,713	41,345,622
1939.....	803	14,501	13,659,162	35,617,614	27,041,195	66,058,151
1944.....	937	23,164	32,345,080	83,993,599	62,258,478	152,106,577
1946.....	937	23,732	33,151,919	96,389,299	67,783,377	170,753,741
1949.....	1,060	23,446	44,219,819	131,804,253	81,187,375	231,606,191
1953.....	1,094	24,471	59,753,045	163,797,711	120,617,345	295,750,419
1954.....	1,057	22,107	55,109,428	157,215,921	118,015,815	287,350,600
1955.....	1,052	22,434	56,683,345	160,905,219	120,808,214	294,829,050
1956.....	1,004	22,560	61,063,301	176,440,306	125,314,488	313,280,599
Quebec—						
1917.....	7,032	188,043	141,008,616	385,212,984	380,882,409	766,095,393
1920.....	7,530	183,748	202,516,550	553,558,520	499,643,217	1,053,201,737
1929 ⁴	6,948	206,580	225,226,808	537,270,055	537,796,395	1,108,592,775
1933.....	7,856	157,481	134,696,386	292,560,568	288,504,782	604,496,078
1939.....	8,373	220,321	223,757,767	586,828,039	470,385,279	1,045,757,585
1944.....	9,656	424,115	668,156,053	1,494,253,053	1,350,519,134	2,929,685,183
1946.....	10,818	357,276	565,986,105	1,297,009,099	1,125,991,848	2,497,971,521
1949.....	11,579	390,275	809,579,270	2,027,793,643	1,651,629,668	3,788,497,123
1953.....	12,132	441,655	1,225,573,314	2,816,373,112	2,424,647,499	5,386,784,863
1954.....	12,191	424,095	1,214,661,400	2,806,248,363	2,448,027,538	5,395,786,644
1955.....	12,194	429,575	1,271,077,953	3,152,541,331	2,622,333,056	5,922,367,074
1956.....	12,112	446,137	1,396,414,564	3,605,521,666	2,888,148,758	6,622,502,699
Ontario—						
1917.....	9,061	299,389	258,393,065	794,556,502	662,174,261	1,456,730,763
1920.....	9,113	295,674	362,941,317	1,071,843,374	792,267,562	1,864,110,936
1929 ⁴	9,348	328,533	406,622,627	1,056,530,202	916,971,816	2,020,492,433
1933.....	9,542	224,816	220,530,088	464,544,563	465,103,842	958,776,558
1939.....	9,824	318,871	378,376,209	907,011,461	791,428,569	1,745,674,707
1944.....	10,731	464,392	975,038,060	2,310,347,858	1,930,043,913	4,339,797,784
1946.....	11,424	498,120	845,216,547	2,001,900,592	1,659,284,622	3,754,523,701
1949.....	12,951	557,190	1,305,544,434	3,256,454,918	2,708,554,013	6,103,804,834
1953.....	13,114	634,554	2,017,952,218	4,560,134,562	4,130,126,462	8,876,504,990
1954.....	13,178	598,914	1,954,767,388	4,412,536,948	3,930,730,030	8,533,167,214
1955.....	13,276	613,872	2,088,905,627	5,014,225,423	4,426,554,771	9,617,642,961
1956.....	13,215	641,190	2,310,634,396	5,683,753,088	4,868,570,251	10,655,098,620
Manitoba—						
1917.....	732	18,939	16,513,423	69,715,149	42,280,801	111,995,950
1920.....	747	23,728	32,372,081	92,729,271	62,776,912	155,506,183
1929 ⁴	861	24,012	31,224,596	87,832,324	63,925,015	155,266,294
1933.....	1,010	18,871	18,687,430	44,579,998	37,390,275	83,934,777
1939.....	1,087	23,910	28,444,798	82,408,293	48,810,544	134,293,595
1944.....	1,290	40,937	62,758,081	226,234,925	120,339,926	352,334,594
1946.....	1,357	38,367	61,018,345	223,096,935	122,780,805	351,887,099
1949.....	1,520	41,956	86,088,380	299,101,498	167,335,495	474,681,912
1953.....	1,540	43,740	121,126,279	345,403,115	229,797,439	584,872,459
1954.....	1,522	41,224	116,454,886	328,827,609	232,487,743	571,408,772
1955.....	1,549	41,318	121,718,573	329,698,765	247,472,108	588,351,081
1956.....	1,534	42,821	133,505,971	367,024,766	270,017,554	647,389,185
Saskatchewan—						
1917.....	560	6,230	5,403,332	22,040,674	13,894,179	35,934,853
1920.....	554	6,709	9,571,175	34,894,105	22,610,861	57,504,966
1929 ⁴	594	7,025	9,105,597	51,003,566	23,002,952	75,368,605
1933.....	673	4,782	4,848,763	19,124,030	11,478,634	31,559,387
1939.....	737	6,475	7,346,127	38,782,135	20,283,273	60,650,589
1944.....	1,054	12,361	17,703,103	131,215,017	40,833,333	175,349,234
1946.....	955	11,957	17,956,317	126,565,761	38,459,630	168,356,619
1949.....	962	10,841	22,273,942	164,349,341	47,356,949	215,742,708
1953.....	1,062	11,604	32,395,518	180,303,942	79,941,332	266,613,086
1954.....	1,010	11,526	33,509,833	169,326,001	104,560,398	280,733,784
1955.....	960	11,490	34,825,511	174,078,701	113,598,622	295,162,037
1956.....	798	11,536	36,683,383	176,871,188	113,627,642	298,203,489

2.—Summary Statistics of Manufactures, by Province, Certain Years 1917-56—concluded

Province or Territory and Year	Estab- lish- ments	Employees	Salaries and Wages	Cost at Plant of Materials Used	Value Added by Manufacture ¹	Gross Value of Products ²
	No.	No.	\$	\$	\$	\$
Alberta—						
1917.....	636	9,461	8,662,417	42,632,212	23,883,673	66,515,885
1920.....	666	10,955	15,210,628	56,139,646	29,812,891	85,952,537
1929 ⁴	736	12,216	14,585,734	62,500,175	36,824,969	100,966,196
1933.....	874	9,753	9,573,468	29,425,975	18,876,929	49,395,514
1939.....	961	12,712	14,977,700	53,151,149	32,618,153	87,474,080
1944.....	1,165	22,186	33,227,729	172,082,537	77,415,753	252,949,894
1946.....	1,315	22,649	34,939,088	169,425,176	83,735,011	257,031,867
1949.....	1,685	26,425	55,115,554	251,364,059	114,681,296	371,995,120
1953.....	2,072	33,082	92,605,153	346,221,162	199,660,428	555,814,827
1954.....	2,052	32,765	96,909,889	346,524,989	219,327,509	575,277,702
1955.....	2,126	34,846	106,548,815	366,022,853	263,308,701	641,148,235
1956.....	1,971	36,792	120,195,105	412,138,247	285,830,811	703,188,739
British Columbia—						
1917 ⁵	1,133	37,943	35,426,675	87,637,833	71,673,094	159,310,927
1920 ⁵	1,306	34,360	49,135,005	125,405,084	104,851,641	230,256,725
1929 ^{4,5}	1,569	48,153	57,764,968	141,145,838	113,082,137	260,418,645
1933 ⁵	1,552	28,417	28,469,225	70,166,220	59,034,923	133,879,330
1939.....	1,710	42,554	53,881,994	136,655,872	103,263,292	247,948,600
1944.....	2,116	96,062	178,639,118	303,560,016	337,137,197	655,844,689
1946.....	2,731	75,484	137,506,645	335,708,533	293,352,652	644,527,898
1949.....	3,493	82,934	196,403,722	531,112,329	409,665,348	959,008,088
1953.....	4,317	93,844	300,921,318	724,495,754	615,686,215	1,366,823,690
1954.....	4,462	95,867	319,802,914	794,885,369	651,812,950	1,474,156,242
1955.....	4,486	102,408	353,810,727	895,973,668	750,877,508	1,679,344,816
1956.....	4,393	108,595	393,869,388	1,007,882,346	824,249,273	1,859,368,466
Yukon and N.W.T.—						
1939.....	5	55	97,766	138,500	92,054	242,968
1944.....	12	67	118,972	189,718	280,803	489,256
1946.....	13	92	200,560	172,845	408,727	646,295
1949.....	18	148	359,068	643,807	604,896	1,377,453
1953.....	30	177	569,995	1,349,970	1,012,008	2,516,683
1954.....	31	191	630,316	1,492,898	1,855,633	3,536,300
1955.....	26	170	604,507	2,843,895	1,732,511	4,751,000
1956.....	24	175	681,433	3,867,415	1,076,223	5,130,497

¹ See footnote 1, Table 1.² In 1952 gross value of products was replaced by selling value of factory shipments; see text on p. 626.³ Excludes figures for the fish processing industry which were not available for 1949.⁴ See footnote 3, Table 1.⁵ Includes Yukon Territory.

The figures in Table 3 trace the tendencies in manufacturing industries as clearly as possible from 1917 to 1956. In analysing statistics of production and materials used, price changes should be borne in mind, particularly the inflation of values in the years immediately following World War I, the drop in prices of commodities during the depressions following 1921 and 1930, and the increases again in World War II and the postwar period.

3.—Significant Statistics of Manufactures for Certain Years 1917-56

Item	1917	1920	1929 ¹	1933
Establishments.....	No. 21,845	22,532	22,216	23,780
Total employees.....	606,523	598,893	666,531	468,658
Averages per establishment.....	" 27.8	26.6	30.0	19.7
Total earnings.....	\$ 497,801,844	717,493,876	777,291,217	436,247,824
Averages per establishment.....	\$ 22,788	31,843	34,988	18,345
Averages per employee.....	\$ 821	1,198	1,166	931
Supervisory and office employees.....	No. 64,918	78,334	88,841	80,636
Averages per establishment.....	" 3.0	3.5	4.0	3.6
Total earnings.....	\$ 85,353,667	141,837,361	175,553,710	139,317,946
Averages per employee.....	\$ 1,315	1,811	1,976	1,608
Production workers.....	No. 541,605	520,559	577,690	382,022
Averages per establishment.....	" 24.8	23.1	26.0	16.1

For footnote, see end of table, p. 630.

3.—Significant Statistics of Manufactures for Certain Years 1917-56—concluded

Item		1917	1920	1929 ¹	1933
Total earnings.....	\$	412,448,177	575,656,515	601,737,507	296,929,878
Averages per employee.....	\$	762	1,106	1,042	777
Cost of materials.....	\$	1,539,678,811	2,085,271,649	2,029,670,813	967,788,928
Averages per establishment.....	\$	70,482	92,547	91,361	40,698
Averages per employee.....	\$	2,539	3,482	3,045	2,065
Values added by manufacture ²	\$	1,281,131,980	1,621,273,548	1,755,386,937	919,671,181
Averages per establishment ²	\$	58,646	71,954	79,015	38,674
Averages per employee ²	\$	2,112	2,707	2,634	1,962
Gross value of products.....	\$	2,820,810,791	3,706,544,997	3,883,446,116	1,954,075,785
Averages per establishment.....	\$	129,128	164,501	174,804	82,173
Averages per employee.....	\$	4,651	6,189	5,286	4,170
		1939	1944	1954	1956
Establishments.....	No.	24,805	28,483	38,028	37,428
Total employees.....	"	653,114	1,222,882	1,267,966	1,353,020
Averages per establishment.....	"	26.5	42.9	33.3	36.1
Total earnings.....	\$	737,811,153	2,029,621,370	3,896,687,691	4,570,692,190
Averages per establishment.....	\$	29,744	71,257	102,469	122,120
Averages per employee.....	\$	1,121	1,660	3,073	3,378
Supervisory and office employees.....	No.	124,772	192,558	278,936	301,297
Averages per establishment.....	"	5.0	6.8	7.3	8.1
Total earnings.....	\$	217,839,334	418,065,594	1,075,101,215	1,272,025,985
Averages per employee.....	\$	1,746	2,171	3,854	4,222
Production workers.....	No.	533,342	1,030,324	989,030	1,051,723
Averages per establishment.....	"	21.5	36.2	26.0	28.1
Total earnings.....	\$	519,971,819	1,611,555,776	2,821,586,476	3,298,666,205
Averages per employee.....	\$	975	1,564	2,853	3,136
Cost of materials.....	\$	1,836,159,375	4,832,333,356	9,241,857,554	11,721,536,889
Averages per establishment.....	\$	74,024	169,657	243,028	313,176
Averages per employee.....	\$	2,790	3,952	7,289	8,663
Values added by manufacture ²	\$	1,531,051,901	4,015,776,010	7,902,124,137	9,605,424,579
Averages per establishment ²	\$	61,724	140,989	207,798	256,637
Averages per employee ²	\$	2,326	3,284	6,232	7,099
Gross value of products.....	\$	3,474,783,528	9,073,692,519	17,554,527,504 ³	21,636,748,986 ³
Averages per establishment.....	\$	140,084	318,565	461,621	578,090
Averages per employee.....	\$	5,280	7,420	13,845	15,991

¹ A change in the method of computing the number of production workers in the years 1925 to 1930 inclusive increased the number somewhat over that which the method otherwise used would have given. There was therefore a proportionate reduction in the averages for 1925-30 per employee as compared with what these averages would have been under the other method. In 1931, however, the method in force prior to 1925 was re-adopted. The figures for 1931 and later years are therefore comparable with those for 1924 and earlier years.

² Net value of products; see footnote 1, Table I, p. 627.

³ In 1952 gross value of products was replaced by value of factory shipments; see text on p. 626.

Subsection 1.—Consumption of Manufactured Products

The value of all manufactured commodities made available for consumption in 1956 was \$23,014,011,922, a figure obtained by adding to the value of manufactured products the value of the imports of manufactured and partly manufactured goods, and deducting the value of the exports. More accurate statistics could be presented were it possible to exclude from the gross value of manufactured products the duplications involved when the products of one manufacturing establishment become the material worked upon in another. Iron, vegetable, wood and paper, non-ferrous metals, non-metallic minerals, textiles and animal products were, in that order, the leading groups in the value of finished products made available for consumption in 1956.

Wood and paper, animal, and non-ferrous metal products were manufactured in Canada in greater quantities than required for home consumption, providing export balances in these groups.

On balance, Canada in the past imported large quantities of iron and steel, textiles, chemicals and non-metallic mineral products despite large home production. The expansion of the iron and steel, chemical and non-metallic mineral products industries is enabling Canada to meet a greater proportion of domestic requirements.

4.—Consumption of Manufactured Products, Certain Years 1929-55 and by Industrial Group 1956

Year and Industrial Group	Gross Value of Products Manufactured ¹	Manufactured and Partly Manufactured Goods ²		Value of Manufactured Products Available for Consumption
		Value of Net Imports	Value of Domestic Exports	
	\$	\$	\$	\$
1929.....	3,883,446,116	939,130,201	686,876,071	4,135,700,246
1933.....	1,954,075,785	298,068,344	365,232,113	1,886,912,016
1939.....	3,474,783,528	542,364,930	646,853,938	3,370,294,520
1944.....	9,073,692,519	1,302,413,996	2,668,575,781	7,707,530,734
1946.....	8,035,692,471	1,390,123,100	1,701,677,026	7,724,138,545
1949.....	12,479,593,300	2,043,583,929	2,017,055,615	12,506,121,614
1951.....	16,392,187,132	3,034,709,829	2,749,091,256	16,677,805,705
1952.....	16,982,687,035	3,125,381,333	2,892,543,945	17,215,524,423
1953.....	17,785,416,854	3,519,418,503	2,781,269,785	18,523,565,572
1954.....	17,554,527,504	3,239,535,681	2,811,573,960	17,982,489,225
1955.....	19,513,933,811	3,781,212,944	3,143,126,437	20,152,020,318
1956³				
Vegetable products.....	2,861,852,540	313,486,623	215,256,488	2,960,082,675
Animal products.....	1,907,739,874	63,479,972	105,098,959	1,866,120,887
Textiles and textile products.....	1,598,529,035	325,042,464	21,030,548	1,902,540,951
Wood and paper products.....	4,044,274,969	211,399,363	1,447,697,494	2,807,976,838
Iron and its products.....	4,928,087,306	2,161,115,279	314,406,192	6,774,796,393
Non-ferrous metal products.....	2,952,350,337	438,698,501	737,267,814	2,653,781,024
Non-metallic mineral products.....	1,949,765,214	321,902,276	129,124,824	2,142,542,666
Chemicals and allied products.....	1,068,993,907	286,375,289	182,854,337	1,172,514,859
Miscellaneous industries.....	325,155,804	517,537,946	109,038,121	733,655,629
Totals, 1956.....	21,636,748,986	4,639,037,713	3,261,774,777	23,014,011,922

¹ In 1952 gross value of products was replaced by selling value of factory shipments; see text on p. 626. ² Figures for the years 1929 and 1933 are for the fiscal years ended Mar. 31 of the following years; for 1939-56 they are for the calendar year. Net imports are total imports less foreign products re-exported.

³ Consumption figures for the major standard industrial classification groups (see p. 635) cannot be calculated because statistics of imports and exports are compiled on the component material classification basis.

Subsection 2.—Value and Volume of Manufactured Production

Value of Manufactured Production.—In the interpretation of manufacturing values over a number of years, variations in the level of prices must be borne in mind. In recent years owing to large changes in prices, unadjusted value series used in isolation have become increasingly inadequate as indicators of economic trends. Consequently interest has shifted to measures of volume. The range of prices since 1929, on the base period 1935-39=100, is as follows:—

Year	General Wholesale Price Index	Price Index of Fully or Chiefly Manufactured Products
1929.....	124.6	123.7
1933.....	87.4	93.3
1939.....	99.2	101.9
1944.....	130.6	129.1
1946.....	138.9	138.0
1949.....	198.3	199.2
1952.....	228.0	230.7
1953.....	220.7	228.8
1954.....	217.0	224.2
1955.....	218.9	224.5
1956.....	225.6	231.5

Volume of Manufactured Production.—Real income is ultimately measured in goods and services so that the growth of the volume of manufacturing production, as distinguished from its value, becomes a matter of great significance. The important thing to know is whether consumers are getting more goods and services and not whether they are expending more dollars and cents. The field of industrial production, because of its dominating position in the national economy, has attracted increasing attention and this in turn has resulted in the need for more accurate measurements of physical output.

During the past few years the Dominion Bureau of Statistics has been engaged in the reconstruction of the index of industrial production* which was first published in 1926 and later subjected to several major revisions. The latest reconstruction was made possible by the availability of a great deal of basic data. Annual statistics valuable for this project have been collected by the Bureau from the end of World War I to the present and the scope of the monthly information has been greatly expanded. Applying methods developed through the experience of the past quarter-century, it has been possible to compute an index with a fair measure of accuracy from 1935 to the present.

The manufacturing sector is divided, at the major group level, into durable manufactures and non-durable manufactures, for the reason that the movement of durable goods normally varies from that of non-durables. There tends to be greater fluctuation in durables from prosperity to depression, the demand for non-durables being more constant.

5.—Index of the Total Volume of Manufactured Production classified on the Basis of Durable and Non-durable Goods, 1947-56

(1935-39=100)

NOTE.—Figures for the years 1935-46 are given in the 1955 Year Book, p. 641.

Year	Non-durable Manufactures	Durable Manufactures	All Manufactures	Year	Non-durable Manufactures	Durable Manufactures	All Manufactures
1947.....	191.2	233.5	207.7	1952.....	215.2	294.9	246.3
1948.....	197.1	244.4	215.5	1953.....	224.1	323.9	263.0
1949.....	198.2	246.3	217.0	1954.....	221.7	297.7	251.4
1950.....	208.3	259.1	228.1	1955.....	235.2	324.8	270.1
1951.....	214.0	285.9	242.1	1956.....	245.6	348.9	285.9

The period 1947-56 was characterized by unprecedented industrial expansion. The end of hostilities in 1945 and the subsequent reconversion to peacetime production were attended by declines in output but the upward trend was resumed in 1947. The rate of advance slackened moderately in 1948 and 1949 but regained most of its 1947 impetus in 1950 when the outbreak of hostilities in Korea resulted in heavy anticipatory buying on the part of consumers and in growing expenditures for national defence. A remarkable feature is that in 1952 the index of the volume of manufacturing production stood at 246.3, having surpassed the record wartime level of 242.3 established in 1944. The index continued to advance in 1953, dropped somewhat in 1954 but moved upward again to a new high of 285.9 in 1956. The improvement in the latest years was the result of accelerated spending on capital goods particularly stimulating the durable goods industries, the improvement in the export demand for many Canadian manufactured commodities, and the impact on consumer goods industries of increased population and higher labour income.

Durable Manufactures.—In the postwar period the volume index of durable manufactures has shown a steady advance, except for 1954, reaching a high of 348.9 in 1956. All groups in the sector reported higher levels of production than in 1955. The greatest

* For a description of the methods used in constructing the index and a description of its scope, see DBS Reference Paper No. 34. *Revised Index of Industrial Production, 1935-1951.*

increase of 14.1 p.c. was made by the iron and steel products group, followed by non-metallic mineral products with 11.5 p.c. The transportation equipment group, the only group in this sector reporting a decline in 1955, increased 6.0 p.c. in 1956. The electrical apparatus and supplies group followed its continuously upward trend with a 2.8-p.c. increase, and wood products reported a modest rise of 0.5 p.c. In the latter group, the increased volume of wood products needed to satisfy the requirements of the domestic boom in construction was just about counterbalanced by a decline in export sales.

6.—Indexes of the Volume of Manufactured Production of the Groups Comprised within the Durable Manufactures Classification, 1947-56

(1935-39=100)

NOTE.—Indexes for the years 1935-46 are given in the 1954 Year Book, p. 630.

Year	Wood Products	Iron and Steel Products	Transportation Equipment	Non-ferrous Metal Products	Electrical Apparatus and Supplies	Non-metallic Mineral Products
1947.....	195.6	249.9	239.5	182.8	316.8	269.8
1948.....	200.7	270.4	232.6	201.6	328.5	283.7
1949.....	202.3	264.5	243.9	200.5	333.8	284.4
1950.....	215.1	263.2	262.2	212.8	367.6	314.6
1951.....	220.6	292.2	315.0	234.7	392.3	342.1
1952.....	214.1	292.7	373.1	232.2	393.1	346.1
1953.....	235.3	290.8	436.3	243.3	486.7	399.0
1954.....	230.3	251.8	354.9	246.7	477.8	409.5
1955.....	255.1	287.3	350.7	270.9	535.2	471.5
1956.....	256.5	327.8	371.9	285.7	550.3	525.9

Non-durable Manufactures.—The trend of output among the individual groups of the non-durable sector of manufacturing in the postwar period was visibly smoother than in the durable sector although the general trend was the same—except for 1954 no interruption occurred in the upward movement of production. Unlike durable goods, non-durable commodities are mostly consumer goods and are less influenced by sudden changes in the international situation or the capital investment programs of producers and governments. By 1956 the non-durables index of output had reached 245.6, the highest on record. All groups except textiles reported increased activity in 1956 as compared with 1955, the highest being reported by the petroleum and coal group with a 14.7-p.c. rise. Leather products reversed a long-term downward trend to record an 8.2-p.c. increase, second highest among the non-durables.

7.—Indexes of the Volume of Manufactured Production of the Groups Comprised within the Non-durable Manufactures Classification, 1947-56

(1935-39=100)

NOTE.—Indexes for the years 1935-46 are given in the 1954 Year Book, p. 629.

Year	Foods	Beverages	Tobacco and Tobacco Products	Rubber Products	Leather Products	Textile Products (except Clothing)
1947.....	181.5	249.4	211.9	230.7	149.7	172.9
1948.....	183.0	270.9	215.8	227.6	129.6	180.2
1949.....	180.3	285.7	224.4	208.5	133.5	186.0
1950.....	183.6	282.9	227.5	251.9	126.8	212.4
1951.....	188.7	297.7	212.2	264.3	117.0	208.6
1952.....	195.5	323.6	242.3	246.4	128.0	184.1
1953.....	194.0	336.6	269.6	264.2	136.7	187.6
1954.....	198.1	328.6	279.3	252.6	128.6	161.0
1955.....	203.0	358.3	303.3	296.3	136.7	185.3
1956.....	205.3	376.5	325.5	318.5	147.9	182.4

7.—Indexes of the Volume of Manufactured Production of the Groups Comprised within the Non-durable Manufactures Classification, 1947-56—concluded

Year	Clothing (Textile and Fur)	Paper Products	Printing, Publishing and Allied Industries	Products of Petroleum and Coal	Chemicals and Allied Products
1947.....	147.7	207.4	163.3	181.2	245.5
1948.....	156.0	217.7	177.2	199.0	243.2
1949.....	159.4	213.7	183.8	218.0	239.5
1950.....	155.7	230.4	195.3	243.5	253.7
1951.....	149.7	247.8	194.7	274.9	267.8
1952.....	154.4	235.5	192.4	295.1	272.4
1953.....	167.3	244.7	204.8	324.3	284.4
1954.....	145.4	254.4	214.8	336.9	285.0
1955.....	149.0	267.7	219.5	365.4	291.8
1956.....	156.0	279.7	236.9	442.2	300.7

Section 2.—Manufactured Production Variouslly Classified

Subsection 1.—Manufactures classified by Industrial Groups and Individual Industries

Manufacturing production in Canada, after a downward adjustment in 1954, began to move upward in the summer of 1955 and continued to improve at an accelerated rate throughout 1956. The selling value of factory shipments for that year was the highest on record at \$21,636,748,986, exceeding the 1955 total by 10.9 p.c. and the 1953 total, the previous peak, by 21.7 p.c. However, about half of the gain over 1955 was accounted for by higher prices, the actual increase in the physical volume of production amounting to 5.4 p.c. In employment the record was not quite so impressive. Although a record number of persons were employed in 1956, the increase over 1955 was 4.2 p.c. and over the high point of 1953 only 2.0 p.c. Salaries and wages paid in 1956 at \$4,570,692,190, and value added by manufacture, at \$9,605,424,579, were also the highest on record.

Heavy investment in facilities for the production of durable goods was reflected in output in 1956. Production of pig iron rose from 3,215,367 tons in 1955 to 3,568,203 tons, steel ingots and castings from 4,534,672 tons to 5,301,202 tons, aluminum from 612,543 tons to 620,321 tons, nickel from 174,928 tons to 178,515 tons, cement from 4,404,480 tons to 5,021,683 tons, and motor vehicles from 452,114 units to 471,350 units. Export demand for Canadian manufactured goods was particularly apparent in newsprint, whisky, aluminum and its products, copper and its products, aircraft, lead and its products, non-farm machinery and synthetic plastics, all of which showed substantial increases in production over 1955. Exports of wood pulp, nickel, automobiles and parts, artificial crude abrasives, and zinc and its products were moderately higher, while exports of planks and boards, red cedar shingles, veneer and plywood, wheat flour, farm machinery and fertilizers were considerably lower.

The magnitude of the development that has taken place in Canadian manufacturing in the postwar years is strikingly illustrated by the increase of 50.6 p.c. in the physical volume of manufactured products between 1946 and 1956, as compared with an increase of 31 p.c. in the population. It is noteworthy that the increase in the volume of durable goods produced was 70.1 p.c. as against an increase of 36.3 p.c. in non-durables.

With only one exception, all groups in both the durable and non-durable goods sectors recorded marked advances in volume output in the ten-year period; the exception was leather products which showed a decline of 11.9 p.c. Among durable goods, the most striking advance was made by the non-metallic mineral products group, with an increase of 137.5 p.c., followed by electrical apparatus and supplies with 122.5 p.c., non-ferrous metal products 78.5 p.c., transportation equipment 67.9 p.c., iron and steel products 47.3 p.c. and wood products 46.6 p.c.

Among the non-durables, the greatest advance was achieved by the products of the petroleum and coal group with 164.3 p.c. Rubber and rubber products followed with an increase of 101.6 p.c., printing, publishing and allied industries with 64.7 p.c., beverages 60.6 p.c., tobacco and tobacco products 59.2 p.c., paper products 48.1 p.c., chemicals and allied products 26.5 p.c., foods 15.9 p.c., textiles 12.8 p.c., and clothing 2.0 p.c.

8.—Percentage Variations in Employment, Salaries and Wages and Selling Value of Factory Shipments in the Main Industrial Groups, 1956 Compared with 1955

Industrial Group	1956 Compared with 1955		
	Number of Employees	Salaries and Wages	Selling Value of Factory Shipments
	p.c.	p.c.	p.c.
Foods and beverages.....	+ 1.6	+ 6.6	+ 5.9
Tobacco and tobacco products.....	+ 0.9	+ 2.9	- 4.7
Rubber products.....	+ 5.6	+11.4	+10.3
Leather products.....	+ 2.6	+ 8.7	+ 8.7
Textile products.....	+ 2.5	+ 6.1	+ 4.4
Knitting mills.....	+ 1.2	+ 5.1	+ 6.4
Clothing.....	+ 0.1	+ 6.0	+ 7.2
Wood products.....	+ 1.4	+ 6.2	+ 5.2
Paper products.....	+ 4.4	+10.6	+ 7.6
Printing, publishing and allied industries.....	+ 4.0	+ 8.4	+11.1
Iron and steel products.....	+ 8.4	+14.8	+22.9
Transportation equipment.....	+ 7.2	+12.9	+12.4
Non-ferrous metal products.....	+ 5.2	+ 9.6	+14.5
Electrical apparatus and supplies.....	+ 9.2	+17.6	+13.3
Non-metallic mineral products.....	+ 3.1	+ 9.3	+11.4
Products of petroleum and coal.....	+ 1.1	+12.8	+18.6
Chemicals and allied products.....	+ 1.9	+ 8.4	+ 6.4
Miscellaneous industries.....	+ 6.1	+12.4	+15.3
Averages, All Groups.....	+ 4.2	+10.3	+10.9

9.—Summary Statistics of Manufactures, by Industrial Group, 1945-56

NOTE.—Figures for 1946, 1948 and 1950 will be found in the 1952-53 Year Book, pp. 611-613; those for 1952 in the 1955 edition, pp. 645-647; for 1953 in the 1956 edition, pp. 636-638; and for 1954 in the 1957-58 edition, pp. 644-645.

Industrial Group and Year	Establishments	Employees	Salaries and Wages	Cost at Plant of Materials Used	Value Added by Manufacture	Gross Value of Products ¹
	No.	No.	\$	\$	\$	\$
Foods and Beverages—						
1945.....	8,872	156,396	224,908,882	1,336,820,028	558,247,045	1,921,774,601
1947.....	8,869	167,865	276,245,015	1,656,529,086	695,092,932	2,383,975,675
1949.....	8,558	170,024	332,536,319	2,009,246,062	834,017,547	2,882,581,753
1951.....	8,388	172,493	392,859,435	2,419,206,798	985,240,884	3,450,030,515
1955.....	8,134	180,085	498,786,577	2,319,782,949	1,257,652,677	3,614,315,616
1956.....	8,023	183,008	531,634,259	2,474,174,069	1,311,492,763	3,826,702,255
Tobacco and Tobacco Products—						
1945.....	86	12,164	15,738,041	79,176,519	42,985,992	122,543,932
1947.....	91	10,880	16,234,772	97,121,002	49,221,094	146,793,011
1949.....	72	10,686	21,896,378	113,357,196	58,529,226	172,420,213
1951.....	62	9,826	24,438,218	119,590,053	59,033,325	179,177,093
1955.....	56	9,529	29,446,891	163,027,885	88,652,932	250,933,785
1956.....	51	9,613	30,308,855	150,111,499	88,298,796	239,242,872
Rubber Products—						
1945.....	55	23,490	39,111,477	78,500,892	98,836,225	181,413,226
1947.....	60	23,475	46,613,893	82,934,625	110,673,007	196,307,734
1949.....	62	20,729	48,172,207	73,895,718	101,705,513	178,503,559
1951.....	67	23,054	64,357,696	146,951,650	161,184,980	311,678,489
1955.....	82	21,913	73,774,964	137,074,770	187,029,017	322,412,379
1956.....	91	23,136	82,154,889	160,686,586	198,602,139	355,583,815

¹ In 1952 gross value of products was replaced by selling value of factory shipments; see text on p. 626.

9.—Summary Statistics of Manufactures, by Industrial Group, 1945-56—continued

Industrial Group and Year	Estab-lish-ments	Em-ployees	Salaries and Wages	Cost at Plant of Materials Used	Value Added by Manufacture	Gross Value of Products ¹
	No.	No.	\$	\$	\$	\$
Leather Products—						
1945.....	706	34,123	43,268,635	95,006,015	71,297,713	167,888,463
1947.....	792	35,724	52,628,612	123,894,474	86,646,061	212,430,165
1949.....	747	34,900	59,699,886	117,869,462	91,157,684	210,804,174
1951.....	711	31,578	59,668,764	135,114,110	84,885,048	221,882,794
1955.....	646	30,575	68,970,276	108,961,619	107,215,340	218,043,090
1956.....	646	31,384	74,970,034	123,790,832	112,857,380	237,031,985
Textile Products (except Clothing)—						
1945.....	664	66,011	88,372,939	217,289,281	165,689,522	391,182,025
1947.....	747	73,979	116,228,736	289,986,732	215,170,493	514,844,838
1949.....	847	77,773	156,166,554	339,644,950	285,641,367	636,824,130
1951.....	892	81,710	185,030,489	495,304,102	337,936,447	846,477,303
1955.....	977	69,144	187,805,044	408,890,576	314,533,385	734,515,445
1956.....	965	70,873	199,327,510	430,420,090	323,820,707	766,977,127
Clothing (Textile and Fur)—						
1945.....	2,676	99,959	131,478,496	251,899,847	222,307,384	476,754,319
1947.....	3,121	110,329	166,951,727	311,018,817	300,527,093	614,594,703
1949.....	3,058	117,752	206,512,782	371,128,833	352,741,236	727,498,836
1951.....	3,083	115,733	222,364,947	405,347,118	370,672,177	780,012,025
1955.....	2,944	111,344	243,644,687	435,588,452	401,110,652	839,548,665
1956.....	2,811	111,712	257,854,168	483,175,047	418,424,063	898,919,689
Wood Products—						
1945.....	7,656	93,209	119,833,932	240,482,275	208,979,657	454,447,165
1947.....	9,744	120,434	186,467,946	398,854,196	365,050,223	771,403,332
1949.....	11,191	121,632	224,902,644	436,637,453	393,928,758	840,355,634
1951.....	11,975	131,278	288,062,074	610,807,577	529,300,377	1,153,376,772
1955.....	11,804	133,673	354,439,897	723,815,493	631,857,981	1,375,343,554
1956.....	11,103	135,583	376,349,267	788,465,324	646,223,303	1,446,612,560
Paper Products—						
1945.....	475	60,819	109,627,174	255,265,326	241,121,150	536,859,861
1947.....	502	73,445	168,632,394	410,456,570	443,374,435	911,238,813
1949.....	524	76,471	208,348,621	494,300,501	532,288,636	1,093,060,326
1951.....	547	82,889	276,521,006	683,488,653	827,924,962	1,589,842,162
1955.....	580	89,750	349,777,049	793,008,069	867,261,587	1,754,098,505
1956.....	568	93,705	386,886,416	885,056,261	908,726,918	1,887,611,000
Printing, Publishing and Allied Industries—						
1945.....	2,312	43,565	74,257,775	52,655,848	132,385,988	186,945,134
1947.....	2,458	52,096	101,611,652	82,585,466	178,667,051	263,632,152
1949.....	3,866	61,834	141,489,984	124,684,351	250,162,704	377,908,182
1951.....	4,019	64,694	170,828,730	152,753,412	295,642,569	452,142,515
1955.....	4,494	69,602	234,579,858	199,161,743	415,668,242	619,828,786
1956.....	4,585	72,361	254,372,125	225,201,594	459,224,177	688,434,263
Iron and Steel Products—						
1945.....	1,903	169,278	313,966,173	395,624,098	527,473,688	952,482,150
1947.....	2,200	162,399	334,044,246	451,289,335	580,342,444	1,064,654,410
1949.....	2,347	163,622	413,227,655	619,499,256	760,934,249	1,419,145,725
1951.....	2,435	183,323	547,314,615	860,565,510	991,334,800	1,904,650,130
1955.....	2,895	181,700	667,657,079	1,005,246,993	1,199,245,953	2,242,717,918
1956.....	2,963	196,918	766,376,087	1,315,813,753	1,429,985,145	2,756,769,477
Transportation Equipment—						
1945.....	504	154,844	326,748,794	498,241,686	523,910,119	1,034,666,913
1947.....	562	104,348	230,898,680	426,573,091	366,151,761	803,611,372
1949.....	596	104,750	270,852,111	584,064,330	466,529,164	1,063,211,331
1951.....	599	122,517	368,106,433	870,178,794	657,424,400	1,541,589,823
1955.....	594	131,789	490,434,996	1,117,768,836	809,748,007	1,950,410,035
1956.....	591	141,257	553,571,826	1,286,297,404	906,154,667	2,192,934,975
Non-ferrous Metal Products—						
1945.....	436	44,221	81,889,942	337,872,041	180,653,076	548,853,026
1947.....	503	43,344	91,046,568	434,517,197	201,162,856	668,074,514
1949.....	532	44,698	114,591,106	537,218,214	289,125,045	867,043,028
1951.....	536	50,114	150,733,704	797,412,763	406,616,836	1,253,599,165
1955.....	581	53,311	201,109,879	974,792,188	590,744,048	1,626,980,858
1956.....	581	56,071	220,369,740	1,128,961,556	667,853,158	1,862,156,162

¹ In 1952 gross value of products was replaced by selling value of factory shipments; see text on p. 626.

9.—Summary Statistics of Manufactures, by Industrial Group, 1945-56—concluded

Industrial Group and Year	Estab- lish- ments	Em- ployees	Salaries and Wages	Cost at Plant of Materials Used	Value Added by Manufacture	Gross Value of Products ¹
	No.	No.	\$	\$	\$	\$
Electrical Apparatus and Supplies—						
1945.....	247	44,129	76,468,795	92,041,030	135,919,899	230,531,874
1947.....	296	52,736	103,891,016	162,131,266	200,859,040	366,506,203
1949.....	365	55,916	137,278,521	212,460,413	269,341,983	486,286,355
1951.....	373	67,626	194,749,038	316,561,307	353,602,872	676,008,959
1955.....	468	76,244	264,031,474	477,655,753	469,918,651	962,615,012
1956.....	473	83,296	310,522,800	558,249,520	577,411,595	1,090,194,175
Non-metallic Mineral Products—						
1945.....	700	20,269	32,959,877	41,488,955	76,318,456	130,704,796
1947.....	863	26,443	50,456,143	66,266,546	115,277,990	201,786,910
1949.....	1,020	28,139	64,594,354	78,401,065	143,872,615	246,457,799
1951.....	1,042	31,522	86,078,972	109,011,701	195,348,829	334,875,398
1955.....	1,171	38,949	131,006,731	174,489,301	301,656,877	514,118,801
1956.....	1,183	40,165	143,223,163	206,872,491	322,821,042	572,539,111
Products of Petroleum and Coal—						
1945.....	80	11,532	22,904,418	188,899,911	65,637,131	270,166,984
1947.....	80	12,769	28,689,932	257,420,851	84,073,746	361,333,008
1949.....	77	14,552	39,783,500	391,036,128	117,819,090	533,730,719
1951.....	82	15,598	51,947,890	497,982,695	179,872,590	709,550,035
1955.....	106	17,486	72,436,559	704,384,995	417,349,989	1,160,824,499
1956.....	107	17,685	81,679,924	837,826,914	489,299,180	1,377,226,103
Chemicals and Allied Products—						
1945.....	986	61,339	107,050,824	228,855,956	252,944,165	498,630,798
1947.....	1,046	39,237	78,993,517	238,310,157	234,056,973	488,307,293
1949.....	1,037	41,328	100,690,662	280,008,945	288,171,551	587,398,215
1951.....	1,037	45,664	131,310,151	366,957,695	384,026,141	776,489,391
1955.....	1,126	51,856	185,267,943	480,104,190	528,928,509	1,044,079,000
1956.....	1,131	52,821	200,742,647	527,564,227	556,240,754	1,111,233,404
Miscellaneous Industries—						
1945.....	692	24,024	37,187,275	83,549,139	59,608,689	144,523,599
1947.....	800	22,247	36,291,117	44,390,608	65,708,603	111,532,447
1949.....	893	26,401	51,147,475	59,778,187	94,600,066	156,363,321
1951.....	1,173	28,756	66,908,755	87,292,415	120,899,546	210,804,555
1955.....	1,524	31,511	89,239,630	114,448,353	164,876,649	283,147,866
1956.....	1,556	33,432	100,348,480	138,869,722	187,988,792	326,580,013

¹ In 1952 gross value of products was replaced by selling value of factory shipments; see text on p. 626.

Detailed Statistics by Group and Individual Industries.—Table 10 presents detailed statistics for 1956 regarding the individual industries under which all industrial plants in Canada are classified. The industries are assembled under seventeen main groups according to the Standard Industrial Classification.

In interpreting the statistics of individual industries it should be noted that the figures on employment, production, etc., do not refer to individual products but to all the products produced by an industry. For example, the value of production of the confectionery industry amounting to \$119,455,419 in 1956 does not imply that this was the value of confectionery produced. What it means is that the firms whose principal product was confectionery had a value of production of \$119,455,419. This figure, in addition to confectionery, includes all the subsidiary products made by these firms, such as chewing gum valued at \$10,031,150, ice cream which was valued at \$3,058,710, and bread and other bakery products valued at \$838,310. Confectionery is also produced as a subsidiary product by firms credited to other industrial classifications. The quantities and values of the principal individual commodities produced are given in Table 11. Commodities produced in small quantities are not included, but the list covers approximately 75 p.c. of total production.

10.—Principal Statistics of Individual Manufacturing Industries, 1956

Group and Industry	Estab- lish- ments	Em- ployees	Salaries and Wages	Cost at Plant of Materials Used	Value Added by Manufacture	Selling Value of Factory Shipments
	No.	No.	\$	\$	\$	\$
Foods and Beverages.....	8,023	183,008	531,634,259	2,474,174,069	1,311,492,763	3,826,702,255
Bakery Products—						
Biscuits.....	46	6,191	15,127,721	37,226,249	38,244,500	76,610,411
Bread and other bakery products.....	2,624	35,456	93,759,028	145,925,800	150,249,262	306,805,298
Beverages—						
Breweries.....	59	8,724	36,770,347	53,046,993	161,030,802	215,897,007
Carbonated beverages.....	535	7,766	23,055,967	38,910,429	79,288,993	121,340,498
Distilled liquors.....	21	5,436	19,327,549	51,134,121	94,007,432	144,403,075
Wines.....	19	526	1,991,823	5,262,701	7,446,994	13,315,534
Canning and Processing—						
Fish processing.....	489	14,348	27,621,174	104,484,253	73,064,792	169,936,169
Fruit and vegetable preparations.....	446	16,750	39,969,038	150,499,615	96,044,778	249,883,547
Dairy Products—						
Butter and cheese.....	1,369	20,135	58,430,883	319,962,639	101,805,614	431,255,262
Cheese, process.....	17	1,091	3,513,810	21,931,375	5,368,139	27,434,586
Concentrated milk products.....	30	1,524	4,778,204	59,087,756	16,883,478	79,699,486
Dairy products, other.....	52	785	2,337,436	6,949,986	6,096,640	13,393,921
Grain Mill Products—						
Feeds, stock and poultry, prepared.....	814	6,612	17,542,559	171,048,793	47,033,133	220,556,245
Feed mills.....	577	1,617	3,127,654	23,287,892	6,364,304	30,401,561
Flour mills.....	76	4,572	15,102,725	187,100,113	33,071,029	221,769,944
Foods, breakfast.....	18	1,374	4,752,031	12,398,876	18,703,988	30,967,880
Meat Products—						
Animal oils and fats.....	16	329	1,183,210	2,450,415	2,400,120	5,174,412
Sausage and sausage casings.....	103	1,778	5,171,042	19,419,868	10,204,889	30,133,379
Slaughtering and meat packing	154	24,667	90,471,885	667,993,524	171,398,415	844,888,684
Other Food Industries—						
Confectionery.....	229	9,706	23,399,965	62,858,163	54,617,727	119,455,419
Macaroni and kindred products	17	658	1,875,760	6,711,530	5,222,770	12,021,712
Sugar refining.....	11	3,285	11,863,845	96,958,985	30,122,828	126,690,159
Miscellaneous food preparations	301	9,678	30,460,603	229,523,992	102,842,139	334,668,066
Tobacco and Tobacco Products..	51	9,613	30,368,855	150,111,499	88,298,796	239,242,872
Tobacco, cigars and cigarettes.....	35	7,828	26,447,523	89,837,143	79,120,370	169,528,803
Tobacco processing and packing..	16	1,785	3,861,332	60,274,356	9,178,426	69,714,069 ¹
Rubber Products.....	91	23,136	82,154,889	160,686,586	198,602,139	355,583,815
Rubber goods (including footwear).....	91	23,136	82,154,889	160,686,586	198,602,139	355,583,815
Leather Products.....	646	31,384	74,970,034	123,790,832	112,857,380	237,031,985
Footwear, leather.....	259	20,181	46,394,642	66,901,254	69,992,895	136,681,737
Gloves and mittens, leather.....	69	1,857	3,625,203	5,991,660	5,906,228	11,737,959
Leather tanning.....	53	3,973	12,520,734	32,584,209	18,332,391	51,858,497
Belting, leather.....	11	142	460,626	687,417	738,214	1,446,716
Boot and shoe findings, leather.....	33	656	1,705,330	3,641,554	2,608,299	6,267,090
Miscellaneous leather goods, n.e.s.	221	4,575	10,263,499	13,984,738	15,279,353	29,039,986
Textiles.....	965	70,873	199,327,510	430,420,090	323,820,707	766,977,127
Cotton Goods—						
Cotton thread.....	11	955	2,415,571	5,554,485	5,383,647	10,521,041
Cotton yarn and cloth.....	50	21,939	59,458,812	144,017,345	87,365,325	236,360,054
Miscellaneous cotton goods.....	14	610	1,910,312	5,343,473	3,322,504	8,689,181
Woollen Goods—						
Carpets, mats and rugs.....	19	1,709	4,910,343	10,878,118	8,632,981	19,279,651
Woollen cloth.....	71	6,914	17,203,434	31,162,821	25,172,743	57,044,516
Woollen yarn.....	41	3,016	7,685,299	22,115,453	12,673,282	34,468,669
Miscellaneous woollen goods.....	34	2,205	7,257,383	19,112,965	15,300,073	34,862,778
Synthetic textiles and silk.....	47	15,694	49,115,583	76,492,980	79,629,177	161,161,495
Other Primary Textiles—						
Dyeing and finishing of textiles	54	2,055	6,131,227	4,275,761	9,954,451	15,017,121
Narrow fabrics.....	50	2,198	5,614,352	9,424,066	9,267,829	18,889,090
Other Textile Industries—						
Automobile accessories, fabric	19	991	3,220,417	8,675,890	4,841,966	13,700,631
Awnings, tents and sails.....	142	1,787	3,682,823	9,574,039	6,321,753	16,931,995

¹ Reported on a production basis.

10.—Principal Statistics of Individual Manufacturing Industries, 1956—continued

Group and Industry	Estab- lish- ments	Em- ployees	Salaries and Wages	Cost at Plant of Materials Used	Value Added by Manufacture	Selling Value of Factory Shipments
	No.	No.	\$	\$	\$	\$
Textiles—concluded						
Other Textile Industries—concl.						
Bags, cotton and jute.....	36	1,162	2,887,484	23,705,742	5,343,749	29,108,048
Cordage, rope and twine.....	15	1,156	3,812,114	9,024,435	7,934,809	17,155,868
Embroideries, pleating, hem- stitching, etc.....	161	1,751	3,907,274	3,299,917	5,999,507	9,314,899
Oilcloth, linoleum and other coated fabric.....	16	2,664	10,028,012	18,357,833	16,074,896	35,068,889
Miscellaneous textiles, n.e.s.....	185	4,067	10,087,070	29,404,767	20,602,017	49,803,201
Knitting Mills.....	286	21,913	49,637,957	83,926,020	81,158,559	165,149,727
Hosiery.....	123	8,930	21,900,594	24,902,486	35,337,725	60,629,285
Knitted goods.....	163	12,983	27,737,363	59,023,534	45,820,834	104,520,442
Clothing.....	2,525	89,799	208,216,211	399,249,027	337,265,504	733,769,962
Men's, Women's and Children's Clothing—						
Clothing, children's factory....	191	7,530	14,488,811	32,030,598	25,781,544	57,644,337
Clothing, men's factory.....	551	32,041	75,171,943	155,425,652	118,934,426	272,145,915
Clothing, women's factory....	683	25,821	63,223,780	132,860,064	106,186,011	237,611,438
Clothing contractors, men's....	152	5,151	9,429,131	1,468,665	11,523,735	13,151,560
Clothing contractors, women's	114	2,621	4,323,235	450,955	5,916,298	6,454,292
Miscellaneous Clothing—						
Corsets.....	42	3,895	7,923,989	11,494,745	15,836,565	27,682,743
Fur dressing and dyeing.....	16	1,052	3,255,946	1,057,850	5,096,238	6,241,696
Fur goods.....	522	4,651	14,165,957	39,044,908	21,886,544	61,126,085
Gloves and mittens, fabric....	11	724	1,164,585	2,423,958	2,185,780	4,651,613
Hats and caps.....	156	4,314	10,559,954	13,236,627	16,385,000	29,742,506
Oiled and waterproofed cloth- ing.....	13	447	1,082,446	2,496,193	2,085,044	4,357,077
Clothing, n.e.s.....	74	1,552	3,426,434	7,258,812	5,728,319	12,960,695
Wood Products.....	11,103	135,583	376,349,267	788,465,324	646,223,303	1,446,612,560
Furniture.....	1,890	32,724	93,468,751	148,015,272	148,496,496	297,554,404
Saw and Planing Mills—						
Flooring, hardwood.....	27	1,751	4,752,469	12,057,352	7,751,539	19,818,255
Sash, door and planing mills....	1,805	19,942	54,704,518	151,697,647	89,172,259	243,381,166
Sawmills.....	6,629	57,078	153,809,204	350,745,728	279,710,804	639,414,360 ¹
Veneers and plywoods.....	72	11,596	36,803,115	71,621,361	67,947,325	137,580,874
Other Wood Industries—						
Beekeepers' and poultrymen's supplies.....	7	52	104,721	238,167	171,430	416,954
Boxes and baskets, wood.....	172	3,921	9,496,426	14,161,063	14,351,376	28,829,565
Cooperage.....	62	614	1,698,871	4,787,106	2,255,092	7,119,153
Excelsior.....	11	124	270,995	237,755	392,837	656,577
Lasts, trees and shoe findings....	15	639	1,471,853	1,421,848	2,388,700	3,834,819
Morticians' goods.....	59	1,353	3,453,426	4,289,501	5,606,379	9,902,378
Woodenware.....	30	632	1,381,234	1,890,083	2,115,866	4,116,500
Wood turning.....	62	1,268	3,030,729	3,815,760	4,694,221	8,583,508
Miscellaneous wood products, n.e.s.....	262	3,889	11,902,955	23,486,681	21,168,979	45,404,047
Paper Products.....	568	93,705	386,886,416	885,056,261	908,726,918	1,887,611,000
Boxes and bags, paper.....	215	15,529	48,851,694	150,435,248	90,933,771	241,444,038
Pulp and paper.....	126	65,985	297,571,944	625,205,442	736,346,393	1,455,441,726
Roofing paper.....	25	2,463	9,111,747	22,439,088	18,102,095	41,674,762
Miscellaneous paper goods.....	202	9,728	31,351,031	86,976,483	63,344,659	151,050,474
Printing, Publishing and Allied Industries.....	4,585	72,361	254,372,125	225,201,594	459,224,177	688,434,263
Commercial Printing—						
Printing and bookbinding.....	1,840	25,357	83,403,430	81,272,057	139,473,551	221,879,981
Trade composition.....	50	1,070	4,103,390	489,485	6,006,932	6,569,207
Engraving, Stereotyping and Al- lied Industries—						
Engraving, stereotyping and electrotyping.....	151	4,608	20,258,277	8,300,429	30,516,932	39,035,803
Lithographing.....	85	4,433	16,899,713	21,163,128	29,240,021	50,612,681

¹ Reported on a production basis.

10.—Principal Statistics of Individual Manufacturing Industries, 1956—continued

Group and Industry	Estab- lish- ments	Em- ployees	Salaries and Wages	Cost at Plant of Materials Used	Value Added by Manufacture	Selling Value of Factory Shipments
	No.	No.	\$	\$	\$	\$
Printing, Publishing and Allied Industries—concluded						
Printing and Publishing—						
Printing and publishing.....	768	30,907	116,025,853	83,988,564	218,964,666	305,326,585
Publishing (only) of periodicals.....	1,691	5,986	13,681,462	29,987,931	35,022,075	65,010,006 ¹
Iron and Steel Products.....	2,963	196,918	766,376,087	1,315,813,733	1,429,983,145	2,756,769,477
Agricultural implements.....	71	9,838	36,703,578	64,786,280	51,474,339	122,681,025
Boilers, tanks and platework.....	103	9,004	34,384,694	56,998,458	53,533,046	110,697,040
Bridge and structural steel work.....	51	13,707	58,440,200	103,229,597	99,728,554	204,771,553 ¹
Castings, iron.....	199	17,361	66,815,656	123,391,722	122,732,230	244,028,587
Hardware, tools and cutlery.....	392	14,614	51,857,827	60,033,290	98,882,470	158,406,440
Heating and cooking apparatus.....	117	9,438	33,371,127	65,663,194	60,118,307	123,626,040
Machinery, household, office and store.....	74	9,473	33,302,657	64,971,338	65,594,236	128,254,564
Machinery, industrial.....	329	26,575	102,884,112	142,776,773	200,479,761	329,447,227
Machine shops.....	683	7,737	25,239,627	20,714,664	37,601,274	59,235,440
Machine tools.....	11	1,472	5,927,401	5,402,839	8,353,769	13,495,383
Primary iron and steel.....	50	36,043	162,880,867	301,298,582	352,522,996	680,860,470
Sheet metal products.....	381	20,012	73,745,487	162,747,069	135,728,461	296,043,128
Wire and wire goods.....	133	10,195	39,801,217	89,906,441	72,529,912	160,458,338
Miscellaneous iron and steel products.....	369	11,449	41,021,637	53,893,506	70,705,790	124,764,242
Transportation Equipment.....	591	141,257	553,571,826	1,286,297,404	906,154,667	2,192,934,975
Aircraft and parts.....	52	35,563	146,428,014	138,155,854	212,269,685	354,510,085 ¹
Bicycles and parts.....	5	627	2,192,024	2,064,977	4,190,887	6,424,483
Boat building.....	197	1,711	4,758,317	5,049,849	6,595,758	11,507,160
Motor vehicles.....	16	35,099	149,948,223	697,299,987	298,259,463	988,143,273
Motor vehicle parts.....	198	21,471	82,361,857	177,584,923	154,511,216	329,525,120
Railway rolling stock.....	29	28,118	100,729,171	207,028,080	134,093,999	345,516,206 ¹
Shipbuilding.....	67	17,782	64,685,550	54,130,593	91,188,806	147,198,662 ¹
Miscellaneous transportation equipment.....	27	886	2,468,670	4,983,141	5,044,853	10,109,986
Non-ferrous Metal Products.....	581	56,071	229,369,740	1,128,961,536	667,853,158	1,862,156,162
Aluminum products.....	96	6,884	25,664,161	56,330,198	35,131,189	90,470,877
Brass and copper products.....	154	9,220	34,729,361	173,601,665	69,497,906	244,096,116
Jewellery and silverware.....	220	4,877	13,990,509	29,499,839	24,171,407	53,460,985
Non-ferrous metal smelting and refining.....	23	30,788	130,139,944	820,604,322	511,018,353	1,396,565,178 ¹
White metal alloys.....	58	3,199	11,424,043	41,590,320	20,180,300	62,515,219
Miscellaneous non-ferrous metal products.....	30	1,103	4,421,722	7,335,302	7,854,003	15,047,787
Electrical Apparatus and Supplies.....	473	83,296	310,522,800	558,249,520	577,411,595	1,090,194,175
Batteries.....	36	2,244	8,017,309	25,702,818	14,540,125	41,133,182
Refrigerators, vacuum cleaners and appliances.....	77	9,512	34,567,188	75,861,210	80,339,475	148,903,902
Machinery, heavy electrical.....	74	23,636	95,729,972	116,074,348	163,584,152	261,832,208
Telecommunication equipment.....	125	21,403	72,568,917	135,182,455	119,323,007	244,762,934
Miscellaneous electrical apparatus and supplies.....	161	28,501	99,639,414	205,428,688	199,624,836	393,561,949
Non-metallic Mineral Products.....	1,183	40,165	143,221,163	206,872,491	322,821,042	572,539,111
Abrasives, artificial.....	17	2,816	11,746,942	18,371,516	23,287,988	46,023,192
Asbestos products.....	16	2,249	8,527,505	15,955,866	18,356,090	34,229,784
Cement, hydraulic.....	17	3,237	13,170,346	12,784,027	50,058,214	78,605,846 ¹
Clay products from domestic clay.....	119	4,561	15,410,256	1,123,043	30,449,418	37,784,980 ¹
Clay products from imported clay.....	37	2,131	7,501,868	6,223,638	14,165,690	20,950,514
Concrete products.....	596	10,053	33,732,663	77,315,560	74,468,351	155,369,190
Glass and glass products.....	112	8,173	28,331,205	35,480,541	47,333,842	87,168,541
Gypsum products.....	12	1,675	6,276,231	14,647,050	14,936,519	31,272,655
Lime.....	38	1,103	3,865,452	1,235,969	11,555,978	16,462,331 ¹
Salt.....	13	819	2,901,691	2,465,982	10,552,905	14,007,188 ¹
Sand-lime brick.....	4	135	472,797	366,258	876,167	1,295,656

¹ Reported on a production basis.

10.—Principal Statistics of Individual Manufacturing Industries, 1956—concluded

Group and Industry	Estab- lish- ments	Em- ployees	Salaries and Wages	Cost at Plant of Materials Used	Value Added by Manufacture	Selling Value of Factory Shipments
	No.	No.	\$	\$	\$	\$
Non-metallic Mineral Products —concluded						
Stone products.....	151	2,147	7,510,722	9,907,459	16,894,801	27,774,555
Miscellaneous non-metallic min- eral products.....	51	1,066	3,775,485	10,995,582	9,885,089	21,594,679
Products of Petroleum and Coal	167	17,685	81,679,924	837,826,914	489,299,180	1,377,226,103
Coke and gas products.....	25	3,334	13,772,298	66,709,535	39,974,276	113,684,395 ¹
Petroleum products.....	61	13,925	66,341,638	766,375,257	444,427,613	1,253,798,979 ¹
Miscellaneous products of petrol- eum and coal.....	21	426	1,565,988	4,742,122	4,897,091	9,742,729
Chemicals and Allied Products	1,131	52,821	200,742,647	527,564,227	556,240,754	1,111,233,404
Acids, alkalis and salts.....	48	9,083	40,664,572	86,087,630	96,705,138	193,541,164
Fertilizers.....	45	2,958	11,757,117	43,295,343	37,343,843	89,399,218
Medicinal and pharmaceutical preparations.....	212	7,801	25,953,213	38,009,475	83,300,273	122,592,220
Paints, varnishes and lacquers..	126	6,211	22,713,345	65,155,888	60,438,750	126,312,114
Primary plastics.....	25	3,260	13,855,172	46,911,807	34,886,821	82,738,552
Soaps, washing compounds and cleaning preparations.....	142	3,722	14,513,612	45,955,138	63,127,847	109,384,798
Toilet preparations.....	91	2,288	6,402,078	16,361,508	25,295,686	41,324,564
Vegetable oils.....	12	672	2,583,851	37,107,511	5,443,602	42,239,497
Other Chemical Industries—						
Adhesives.....	29	611	2,152,918	5,423,688	6,456,530	12,329,512
Coal tar distillation.....	11	537	2,453,014	8,048,543	4,549,278	13,221,192
Gases, compressed.....	53	1,399	5,082,994	3,451,756	16,827,975	20,972,581
Inks.....	33	994	3,754,770	6,779,666	9,076,493	15,902,813
Polishes and dressings.....	45	828	2,821,671	9,769,357	11,258,814	20,847,347
Miscellaneous chemical pro- ducts.....	259	12,457	46,029,320	116,206,917	101,529,794	226,427,832
Miscellaneous Industries	1,556	33,432	100,348,480	138,869,722	187,988,792	326,580,013
Brooms, brushes and mops.....	104	2,103	5,397,241	8,608,934	10,085,259	18,641,759
Clocks, watches and watch cases	33	1,119	3,638,944	7,825,135	7,953,540	15,744,711
Fountain pens and pencils.....	18	1,103	3,042,807	5,554,392	7,154,410	12,487,690
Instruments, and related pro- ducts.....	77	5,565	21,867,834	25,361,290	43,851,464	67,875,442
Musical instruments.....	25	1,305	3,940,907	4,304,230	7,838,170	12,284,891
Ophthalmic goods.....	33	1,031	2,836,935	2,714,859	3,511,543	6,152,081
Orthopaedic and surgical appli- ances.....	36	367	939,361	1,014,114	1,599,645	2,737,409
Plastics products.....	177	4,779	12,968,618	29,221,782	27,676,435	56,537,054
Sporting goods.....	95	1,979	5,439,728	6,105,140	9,338,370	15,528,074
Toys and games.....	67	1,741	4,028,376	8,298,927	7,328,702	15,444,080
Typewriter supplies.....	9	430	1,260,265	2,883,424	2,899,091	5,810,198
Other Miscellaneous Industries—						
Artificial flowers and feathers..	40	480	886,218	1,043,393	1,510,570	2,556,704
Buttons, buckles and fasteners..	47	1,555	4,420,935	6,005,793	6,603,000	13,129,630
Candles.....	15	232	681,192	1,245,053	1,626,793	2,789,956
Hair goods.....	13	107	314,089	836,406	551,780	1,424,209
Ice, artificial.....	52	461	1,439,031	243,612	2,892,516	3,606,992
Lamps, electric and lamp shades.....	71	1,332	3,072,033	6,037,658	5,341,414	11,433,019
Models and patterns, excluding paper.....	75	568	2,270,835	908,664	3,323,338	4,276,174
Pipes, lighters and smokers' supplies.....	13	174	520,472	1,492,264	1,420,881	2,716,712
Signs, electric, neon and other..	329	3,324	11,420,335	9,890,036	18,377,732	28,874,077
Stamps and stencils, rubber and metal.....	71	952	3,008,218	1,921,272	4,357,833	6,336,853
Statuary, art goods, regalia and novelties.....	108	798	1,855,547	1,804,792	2,870,232	4,739,696
Umbrellas.....	9	138	284,138	609,703	443,399	1,070,853
Miscellaneous industries.....	39	1,789	4,814,421	4,938,849	9,432,674	14,381,749
Totals, All Industries	37,428	1,353,020	4,570,692,190	11,721,536,889	9,605,424,579	21,636,748,996

¹ Reported on a production basis.

11.—Quantity and Value of the Principal Commodities Produced or Shipped by the Manufacturing Industries, 1956

NOTE.—All values in this table are for factory shipments except those marked with an asterisk which are for gross value of products.

Group and Commodity	Unit of Measure	1956	
		Quantity	Value
			\$
Foods—			
Biscuits, all kinds.....	lb.	252,994,984	71,620,694
Bread.....	"	1,606,946,000	186,060,605
Butter, factory made.....	"	307,028,703	177,941,054
Cheese, factory made.....	"	157,854,958	54,193,588
Coffee, instant.....	"	5,094,805	18,487,830
Coffee and tea, blended, roasted and packed.....	"	121,050,768	128,755,150
Confectionery, all kinds.....	...	...	81,225,534
Cream, sold in dairy factories.....	lb. b. fat	29,210,789	32,921,366
Feed, chopped grain.....	ton	644,305	36,749,663
Feeds, stock and poultry, prepared.....	"	2,476,899	197,235,847
Fish, canned and otherwise prepared.....	...	...	79,097,200*
Flour, wheat.....	cwt.	39,598,907	166,045,506
Fruits and vegetables, canned.....	lb.	617,654,626	82,965,441
Fruits and vegetables, frozen.....	...	...	9,560,893
Ice cream, factory made.....	gal.	31,631,406	51,592,515
Jams, jellies and marmalades.....	lb.	112,074,655	21,013,955
Lard.....	"	101,630,001	15,384,111
Margarine and margarine substitutes.....	"	124,121,091	29,912,431
Meats, canned, including poultry, pastes, etc.....	"	78,115,689	36,814,736
Meats, cooked, including sausage, weiners, etc.....	"	280,362,298	99,223,177
Meats, cured and smoked.....	"	254,454,220	125,150,571
Meats, sold fresh and frozen, including poultry.....	"	1,471,793,311	478,434,414
Milk, sold in dairy factories.....	gal.	185,407,088	134,688,373
Milk, evaporated and condensed.....	lb.	320,273,052	37,508,866
Pickles, relishes and catsup.....	...	...	24,279,003
Pies, cakes and pastry.....	...	...	76,534,971
Powders, edible (custard, jelly, milk, etc.).....	...	...	40,231,775
Shortening.....	"	163,494,942	37,659,479
Soups, canned (except infants').....	"	231,240,402	42,077,767
Sugar, granulated (cane and beet).....	"	1,337,215,380	104,338,098
Beverages—¹			
Beer, ale, stout and porter (sales).....	gal.	214,978,831	339,473,859
Beverage spirits sold (net sales).....	pr. gal.	13,733,393	107,076,353
Carbonated beverages.....	gal.	123,205,120	107,729,748
Wine (sold).....	Imp. gal.	5,036,719	12,986,111
Tobacco and Tobacco Products—¹			
Cigarettes.....	'000	27,343,996	366,114,213
Cigars.....	"	260,900	19,723,097
Tobacco, chewing, smoking and snuff.....	lb.	23,455,973	58,414,898
Tobacco, raw leaf, processed.....	"	113,808,805	69,714,069*
Textile Products (except Clothing)—			
Bags, cotton and jute.....	No.	130,570,092	24,492,215
Blankets.....	...	...	16,075,403
Carpets, mats and rugs.....	...	...	18,379,910
Cotton fabrics.....	...	...	130,592,728
Synthetic woven fabrics, all types.....	yd.	96,055,998	64,302,965
Tire fabrics.....	lb.	32,407,511	27,391,147
Twine and cordage.....	...	...	14,264,708
Woven fabrics, wool or containing wool.....	sq. yd.	31,388,011	48,832,833
Yarns, cotton, rayon, wool, etc. (for sale).....	...	...	135,483,794
Clothing—			
Coats and overcoats, cloth, men's and youths'.....	No.	718,463	20,054,483
Coats, wool, women's and misses'.....	"	1,372,848	33,744,411
Coats, fur, women's (factory made).....	"	219,438	49,620,697
Short coats (including windbreakers, mackinaws, parkas, leather coats, etc.).....	...	...	33,081,699

¹ Includes excise taxes on prime cost of spirits and tobacco products.

11.—Quantity and Value of the Principal Commodities Produced or Shipped by the Manufacturing Industries, 1956—continued

Group and Commodity	Unit of Measure	1956	
		Quantity	Value
Clothing—concluded			
Dresses, women's and misses'	No.	11,689,266	80,118,947
Footwear, leather.....	pr.	35,599,652	126,957,858
Footwear, rubber.....	"	12,158,637	32,666,231
Gloves and mittens, all kinds.....	doz. pr.	2,051,745	16,691,346
Hats and caps, men's.....	doz.	756,202	11,437,488
Hats, women's and children's.....	"	462,340	14,215,255
Hosiery, all kinds.....	doz. pr.	10,282,598	59,667,333
Shirts, fine, work and sport.....	doz.	2,753,591	59,565,036
Sport suits, slacks and other sport clothing, n.e.s.....	...	...	19,695,820
Suits, men's and youths', fine woollen.....	No.	1,433,665	51,823,294
Underwear.....	...	...	57,792,957
Wood Products—			
Boxes, wooden.....	...	...	13,891,784
Lumber, planed.....	M ft. b.m.	1,559,859	119,653,854
Lumber, sawn.....	"	7,744,731	539,652,385
Pulp, wood, made for sale.....	ton	1,996,820	252,928,660
Sash, doors and other mill work.....	...	...	75,278,018
Paper Products—			
Bags, paper.....	...	...	52,237,959
Boxes, paper.....	...	...	180,212,711
Paper boards, all types.....	ton	1,173,087	147,967,340
Paper, book and writing.....	"	341,580	86,524,107
Paper, newsprint.....	"	6,445,110	735,644,049
Paper, wrapping.....	"	288,146	61,098,013
Printing, Publishing and Allied Industries—			
Books and catalogues, printed and bound.....	...	...	37,047,202
Other advertising matter, printed.....	...	...	56,619,521
Periodicals printed for publishers.....	...	...	28,465,606
Periodicals Printed by Publishers—			
Subscriptions and sales.....	...	...	64,308,976
Gross revenue from advertising.....	...	...	196,530,328
Sheet forms, commercial, legal, etc., printed.....	...	...	53,418,665
Iron and Steel Products—			
Bars, iron and steel, hot-rolled (sold).....	ton	795,675	112,281,656
Boilers, heating and power.....	...	...	27,553,938
Castings, grey iron, made for sale.....	...	...	49,435,436
Farm implements and parts.....	...	...	117,656,000*
Forgings, steel and other.....	...	...	35,434,402
Hardware, builders', pole line and other.....	...	...	46,710,000
Machinery, industrial, household, office and store, and parts.....	...	...	686,317,000
Pig iron (sold).....	ton	649,213	34,501,520
Pipes, tubing and fittings, iron and steel.....	...	...	162,928,000
Rolled iron and steel forms, semi-finished (sold).....	net ton	236,969	20,573,136
Sheets, bars and other cold-rolled products (sold).....	"	935,237	160,544,319
Steel ingots and castings (sold).....	"	164,288	55,326,132
Steel shapes erected, buildings, bridges, etc.....	"	453,554	156,717,484*
Steel shapes, structural, made in primary mills.....	"	315,564	36,361,986
Stoves, coal, wood, electric and gas.....	...	...	55,084,914
Tools and implements, hand, all kinds and parts.....	...	...	34,972,392
Wire, wire rope and cable, steel.....	...	...	57,669,155
Transportation Equipment—			
Aircraft, completed in year.....	...	...	94,625,746*
Automobiles, commercial.....	No.	93,157	184,280,298
Automobiles, passenger.....	"	374,312	646,523,642
Automobile parts and accessories, including tires.....	...	...	575,205,000
Buses.....	No.	395	5,944,401
Cars, railway, complete, freight and passenger.....	"	9,221	70,980,820*
Locomotives, diesel-electric, new.....	"	446	74,068,418*
Ships and ship repairs.....	...	...	156,897,005*

11.—Quantity and Value of the Principal Commodities Produced or Shipped by the Manufacturing Industries, 1956—concluded

Group and Commodity	Unit of Measure	1956	
		Quantity	Value
			\$
Non-ferrous Metal Products—			
Jewellery.....	...	...	20,780,000
Kitchenware, aluminium.....	...	...	6,263,153
Silverware.....	...	...	9,333,256
Smelter and refinery products.....	...	...	1,396,565,178*
Electrical Apparatus and Supplies—			
Batteries, electric, storage.....	...	...	27,279,194
Radio receiving sets, complete.....	No.	740,656	23,877,863
Refrigerators, household, mechanical.....	"	269,213	47,443,340
Television sets.....	"	613,895	94,506,905
Wires and cables, electric.....	...	...	186,518,927
Non-metallic Mineral Products—			
Abrasives, artificial.....	ton	262,298	28,066,931
Coke, gas-house.....	"	4,331,216	65,377,694*
Concrete, ready-mixed.....	...	...	75,906,944
Glass, manufactured and natural, (sold).....	M cu. ft.	163,763,992	85,335,789*
Glass, pressed and blown (bottles, sealers, ovenware, etc.).....	...	...	47,970,245
Chemicals and Allied Products—			
Calcium and sodium compounds.....	...	...	43,639,012
Fertilizers, mixed.....	ton	703,200	34,408,000
Medicinal and pharmaceutical preparations.....	...	...	110,002,000
Paints, enamels, and varnishes.....	...	...	119,355,000
Synthetic resins.....	...	...	50,530,000
Soaps and synthetic detergents.....	lb.	309,731,000	77,098,000
Toilet preparations.....	...	...	53,817,616
Miscellaneous—			
Bags, band and hand luggage.....	...	...	16,166,404
Brooms and household brushes.....	doz.	1,052,555	5,662,487
Cans, metal, for food.....	...	...	63,040,021
Furniture, wood and metal, including beds and couches.....	...	...	222,667,402
Gasoline.....	Imp. gal.	3,063,284,112	561,464,291*
Leather, shoe.....	...	...	38,209,178
Mattresses.....	...	...	23,485,434
Mops, floor.....	...	...	3,491,570
Oil, fuel.....	Imp. gal.	4,106,877,321	517,238,643
Pianos, organs and parts.....	...	...	5,109,989
Scientific and professional equipment.....	...	...	57,869,579
Sporting goods.....	...	...	17,271,529
Springs, bed and other furniture.....	...	...	13,304,760
Toys and games.....	...	...	23,402,739

Subsection 2.—Manufactures classified by Origin of Materials

The distinction made between farm materials of Canadian and foreign origin is based on whether the materials are indigenous to Canada rather than on their actual source. Thus, the industries included in the foreign origin classes are those depending upon materials that cannot be grown in Canada, such as tea, coffee, spices, cane sugar, rice, rubber, cotton, etc. Industries included in the Canadian origin classes may, however, be using large quantities of imported materials.

The mineral origin group includes, in addition to non-ferrous metals so largely produced in Canada, the manufactures of iron and steel, of petroleum, and of other mineral substances, the raw materials for which are largely imported. Products of mineral origin, with the exception of fuels, are nearly all durable goods.

12.—Principal Statistics of Manufacturing Industries classified according to Origin of Materials Used, by Main Group, 1956

Origin of Material Used	Estab- lish- ments	Em- ployees	Salaries and Wages	Cost at Plant of Materials Used	Value Added by Manufacture	Selling Value of Factory Shipments
	No.	No.	\$	\$	\$	\$
Farm origin.....	9,520	314,308	895,469,715	3,288,193,503	1,960,806,742	5,299,072,621
Mineral origin.....	6,935	583,624	2,266,287,160	5,784,205,804	4,876,289,838	10,812,027,611
Forest origin.....	16,105	297,041	997,349,531	1,890,422,750	1,983,657,466	3,983,622,020
Marine origin.....	489	14,348	27,621,174	104,484,253	73,064,792	169,936,169
Wildlife origin.....	538	5,703	17,421,903	40,102,758	26,982,782	67,367,781
Mixed origin.....	3,841	137,996	366,542,707	614,127,821	684,622,959	1,304,722,784
Grand Totals.....	37,428	1,353,020	4,570,692,190	11,721,536,889	9,605,424,579	21,636,748,986
Farm Origin Group—						
From field crops.....	6,265	181,579	532,955,678	1,826,443,433	1,341,554,828	3,198,507,817
From animal husbandry	3,255	132,729	362,514,037	1,461,750,070	619,251,914	2,100,564,804
Totals, Farm Origin.	9,520	314,308	895,469,715	3,288,193,503	1,960,806,742	5,299,072,621
Canadian origin.....	8,565	250,314	698,613,546	2,784,993,918	1,527,873,168	4,358,802,872
Foreign origin.....	955	63,994	196,856,169	503,199,585	432,933,574	940,269,749

Subsection 3.—Manufactures classified by Type of Ownership

The figures showing the classification of the type of ownership under which Canadian manufacturers operate are available from 1946, although the first survey did not include the fish curing and packing industry. Its inclusion in subsequent years has not materially altered the percentage distribution of individual ownership, incorporated companies, etc.

As is to be expected, the smaller establishments, regardless of the type of products manufactured, are carried on under individual ownership. In that category industries conducted on a small scale contain a large number of establishments, the percentage decreasing as the scale of operations increases, as the following figures for 1956 show:—

Group	Average Number of Employees per Establishment	Percentage of Individual Ownership Establishments to the Total
Wood products.....	12.2	59.0
Printing, publishing and allied industries.....	15.8	42.6
Miscellaneous manufacturing industries.....	21.5	36.1
Foods and beverages.....	22.8	45.1
Non-metallic mineral products.....	34.0	30.4
Clothing.....	35.6	26.6
Chemicals and allied products.....	46.7	15.6
Leather products.....	48.6	27.4
Iron and steel products.....	66.5	23.9
Textiles.....	73.4	30.3
Knitting mills.....	76.6	14.7
Non-ferrous metal products.....	96.5	23.4
Paper products.....	165.0	8.1
Products of petroleum and coal.....	165.3	2.8
Electrical apparatus and supplies.....	176.1	8.0
Tobacco and tobacco products.....	188.5	29.4
Transportation equipment.....	239.0	26.1
Rubber products.....	254.2	12.1
ALL GROUPS.....	37.7	41.4

Of the 37,428 establishments operating in 1956, 1,691 establishments in the periodical publishing industry were unclassifiable, leaving 35,737 establishments in the four categories of ownership. Individual ownership numbered 14,788 establishments, partnerships 4,550, incorporated companies 15,497 and co-operatives 902. The percentage distribution of the four categories of ownership is given in Table 13 for 1947-56.

13.—Percentage Distribution of Establishments in Manufacturing Industries classified by Type of Ownership, 1947-56, and by Province and Industrial Group, 1956

Year, Province and Industrial Group	Individual Ownership	Partner- ships	Incor- porated Companies	Co-opera- tives	Total
	p. c.	p. c.	p. c.	p. c.	p. c.
1947.....	46.4	16.1	34.3	3.2	100.0
1948.....	46.2	16.4	34.4	3.0	100.0
1949.....	46.0	15.8	35.3	2.9	100.0
1950.....	45.6	15.0	36.3	3.1	100.0
1951.....	44.6	15.5	36.9	3.0	100.0
1952.....	44.9	15.4	36.9	2.8	100.0
1953.....	44.4	14.8	38.2	2.6	100.0
1954.....	43.6	14.3	39.5	2.6	100.0
1955.....	42.7	13.6	41.1	2.6	100.0
1956					
Newfoundland.....	49.3	29.0	21.6	0.1	100.0
Prince Edward Island.....	45.0	18.0	29.6	7.4	100.0
Nova Scotia.....	50.9	14.2	33.0	1.9	100.0
New Brunswick.....	53.0	10.4	34.0	2.6	100.0
Quebec.....	46.5	10.3	39.3	3.9	100.0
Ontario.....	35.7	12.6	50.0	1.7	100.0
Manitoba.....	37.4	14.1	46.9	1.6	100.0
Saskatchewan.....	47.9	15.2	31.0	5.9	100.0
Alberta.....	44.3	15.4	37.0	3.3	100.0
British Columbia.....	35.9	14.8	48.3	1.0	100.0
Yukon and Northwest Territories.....	25.0	8.3	66.7	—	100.0
Canada, 1956.....	41.4	12.7	43.4	2.5	100.0
Foods and beverages.....	45.1	10.5	33.7	10.7	100.0
Tobacco and tobacco products.....	29.4	2.0	64.7	3.9	100.0
Rubber products.....	12.1	4.4	83.5	—	100.0
Leather products.....	27.4	10.4	62.2	—	100.0
Textiles.....	30.3	10.8	58.7	0.2	100.0
Knitting mills.....	14.7	8.0	77.3	—	100.0
Clothing.....	26.6	15.5	57.9	—	100.0
Wood products.....	59.0	16.7	24.2	0.1	100.0
Paper products.....	8.1	3.9	88.0	—	100.0
Printing, publishing and allied industries ¹	42.6	14.5	42.4	0.5	100.0
Iron and steel products.....	23.9	10.6	65.5	—	100.0
Transportation equipment.....	26.1	9.8	64.1	—	100.0
Non-ferrous metal products.....	23.4	10.9	65.7	—	100.0
Electrical apparatus and supplies.....	8.0	2.6	89.4	—	100.0
Non-metallic mineral products.....	30.4	11.7	57.7	0.2	100.0
Products of petroleum and coal.....	2.8	—	96.3	0.9	100.0
Chemicals and allied products.....	15.6	3.8	80.2	0.4	100.0
Miscellaneous manufacturing industries.....	36.1	12.3	51.4	0.2	100.0

¹ Four main categories of ownership only; the non-classifiable group is not included (see text above).

The establishments operating under individual ownership are not as important from the point of view of employment provided as their large numbers would indicate. According to Tables 14 and 15 these establishments, which comprise 41 p.c. of the number, had only 5 p.c. of the total employees. Partnerships accounted for 13 p.c. of the number of establishments and 3 p.c. of the total employees. Incorporated companies with 43 p.c. of the number of establishments had almost 92 p.c. of the employees. Co-operatives with 2 p.c. of the number had less than 1 p.c. of the employees.

On the basis of employment provided, incorporated companies are, by a wide margin, the most important factor in the employment field. In the petroleum and coal products group practically 100 p.c. of the employees were reported by such companies. Incorporated companies in the electrical apparatus and supplies, rubber, paper, and transportation equipment groups had 99 p.c. of the employees; chemical products group had 98 p.c.; tobacco and non-ferrous metal products groups had 97 p.c.; iron and steel products 96 p.c.; textiles mills and knitting mills 95 p.c.; non-metallic mineral products 94 p.c.; leather products 91 p.c.; miscellaneous industries 88 p.c.; printing, publishing and allied industries 87 p.c.; clothing 85 p.c.; and foods and beverages 83 p.c. Companies in the wood products group, with 76 p.c., reported the lowest proportion of total employment.

14.—Percentage Distribution of Employment in the Manufacturing Industries classified by Type of Ownership, 1947-56, and by Province and Industrial Group, 1956

Year, Province and Industrial Group	Individual Ownership	Partner- ships	Incor- porated Companies	Co-opera- tives	Total
	p.c.	p.c.	p.c.	p.c.	p.c.
1947.....	7.5	4.5	87.0	1.0	100.0
1948.....	7.1	4.4	87.5	1.0	100.0
1949.....	6.8	4.2	88.0	1.0	100.0
1950.....	6.3	3.9	88.8	1.0	100.0
1951.....	6.1	3.7	89.3	0.9	100.0
1952.....	5.9	3.6	89.6	0.9	100.0
1953.....	5.7	3.3	90.2	0.8	100.0
1954.....	5.4	3.3	90.5	0.8	100.0
1955.....	5.2	2.9	91.0	0.9	100.0
1956					
Newfoundland.....	6.2	4.8	89.0	—	100.0
Prince Edward Island.....	17.3	10.1	65.6	7.0	100.0
Nova Scotia.....	8.5	3.2	87.3	1.0	100.0
New Brunswick.....	9.1	2.8	86.5	1.6	100.0
Quebec.....	6.1	2.8	90.3	0.8	100.0
Ontario.....	3.2	2.1	94.4	0.3	100.0
Manitoba.....	4.6	3.4	91.1	0.9	100.0
Saskatchewan.....	9.2	5.0	74.0	11.8	100.0
Alberta.....	8.0	4.8	84.9	2.3	100.0
British Columbia.....	4.9	3.2	90.1	1.8	100.0
Yukon and Northwest Territories.....	13.7	—	86.3	—	100.0
Canada, 1956.....	4.8	2.6	91.8	0.8	100.0
Industrial Groups, 1956					
Foods and beverages.....	8.8	3.3	83.0	4.9	100.0
Tobacco and tobacco products.....	0.6	—	97.4	2.0 ¹	100.0
Rubber products.....	0.3	—	99.7	—	100.0
Leather products.....	5.6	3.4	91.0	—	100.0
Textiles.....	2.6	1.7	95.7	—	100.0
Knitting mills.....	1.8	2.8	95.4	—	100.0
Clothing.....	7.4	7.6	85.0	—	100.0
Wood products.....	16.1	7.6	76.0	0.3	100.0
Paper products.....	0.3	0.2	99.5	—	100.0
Printing, publishing and allied industries ²	8.0	4.2	87.0	0.8	100.0
Iron and steel products.....	2.0	1.5	96.5	—	100.0
Transportation equipment.....	0.4	0.3	99.3	—	100.0
Non-ferrous metal products.....	1.2	0.9	97.9	—	100.0
Electrical apparatus and supplies.....	0.2	0.2	99.6	—	100.0
Non-metallic mineral products.....	3.5	2.4	94.1	—	100.0
Products of petroleum and coal.....	—	—	100.0	—	100.0
Chemicals and allied products.....	1.0	0.4	98.2	0.4	100.0
Miscellaneous manufacturing industries.....	7.3	3.9	88.6	0.2	100.0

¹ Includes partnerships.

² Four main categories of ownership only; the non-classifiable group is not included.

**15.—Percentage Distribution of Employment in the Forty Leading Industries,
by Type of Ownership, 1956**

	Industry	Individual Ownership	Partner- ships	Incor- porated Companies	Co-opera- tives	Total
		p.c.	p.c.	p.c.	p.c.	p.c.
1	Pulp and paper.....	—	—	100.0	—	100.0
2	Non-ferrous metal smelting and refining.....	—	—	100.0	—	100.0
3	Petroleum products.....	—	—	100.0 ^{1,2}	—	100.0
4	Motor vehicles.....	—	—	100.0	—	100.0
5	Slaughtering and meat packing.....	0.7	1.2	96.2	1.9	100.0
6	Primary iron and steel.....	—	—	100.0	—	100.0
7	Sawmills.....	24.5	10.6	64.4	0.5	100.0
8	Butter and cheese.....	8.5	3.6	64.0	23.9	100.0
9	Miscellaneous electrical apparatus and supplies.....	0.2	0.3	99.5	—	100.0
10	Rubber goods, including footwear.....	0.3	—	99.7	—	100.0
11	Aircraft and parts.....	0.1	—	99.9	—	100.0
12	Railway rolling-stock.....	—	—	100.0	—	100.0
13	Miscellaneous food preparations.....	2.1	0.9	97.0	—	100.0
14	Motor vehicle parts.....	0.9	0.4	98.7	—	100.0
15	Machinery, industrial.....	0.9	0.5	98.6	—	100.0
16	Bread and other bakery products.....	24.4	7.2	68.1	0.3	100.0
17	Printing and publishing.....	4.9	1.9	92.8	0.4	100.0
18	Furniture.....	11.5	6.5	82.0	—	100.0
19	Sheet metal products.....	1.8	1.1	97.1	—	100.0
20	Clothing, men's factory.....	2.6	5.8	91.6	—	100.0
21	Machinery, heavy electrical.....	0.2 ³	—	99.8	—	100.0
22	Fruit and vegetable preparations.....	4.2	1.9	90.8	3.1	100.0
23	Telecommunication equipment.....	0.3	0.1	99.6	—	100.0
24	Brass and copper products.....	1.5	1.5	97.0	—	100.0
25	Castings, iron.....	1.6	1.0	97.4	—	100.0
26	Sash, door and planing mills.....	14.5	7.0	78.5 ³	—	100.0
27	Boxes and bags, paper.....	1.0	1.1	97.9	—	100.0
28	Clothing, women's factory.....	4.4	5.5	90.1	—	100.0
29	Cotton yarn and cloth.....	0.1 ³	—	99.9	—	100.0
30	Miscellaneous chemical products, <i>n.e.s.</i>	1.5	0.1	98.4	—	100.0
31	Printing and bookbinding.....	13.3	7.4	77.8	1.5	100.0
32	Flour mills.....	1.1	1.9	97.0 ²	—	100.0
33	Feeds, stock and poultry.....	16.7	7.5	55.7	20.1	100.0
34	Breweries.....	—	—	100.0	—	100.0
35	Bridge and structural steel work.....	—	—	100.0 ³	—	100.0
36	Acids, alkalies and salts.....	—	—	100.0	—	100.0
37	Fish processing.....	7.6	1.9	83.4	7.1	100.0
38	Tobacco, cigars and cigarettes.....	1.2 ³	—	98.8	—	100.0
39	Synthetic textiles and silks.....	—	—	100.0 ¹	—	100.0
40	Wire and wire goods.....	1.7	2.3	96.0	—	100.0

¹ Includes individual ownership.² Includes co-operatives.³ Includes partnerships.

Subsection 4.—Leading Manufacturing Industries

The rank of the ten leading industries in 1956, from the standpoint of selling value of factory shipments, is compared with their respective ranks in significant years since 1929 in the following statement:—

Industry	Rank in—							
	1929	1933	1939	1944	1949	1954	1955	1956
Pulp and paper.....	1	1	2	5	1	1	1	1
Non-ferrous metal smelting and refining.....	9	2	1	2	3	2	2	2
Petroleum products.....	10	6	6	14	5	3	3	3
Motor vehicles.....	4	11	5	7	4	5	4	4
Slaughtering and meat packing....	2	3	3	1	2	4	5	5
Primary iron and steel.....	16	31	11	13	8	8	7	6
Sawmills.....	5	14	8	11	6	6	6	7
Butter and cheese.....	6	5	4	10	7	7	8	8
Miscellaneous electrical apparatus and supplies.....	1	1	1	1	19	13	10	9
Rubber goods, including footwear.....	11	4	14	15	15	14	11	10

¹ Classification not comparable with 1944 and previous years.

A prominent feature of Canadian manufacturing development during this period has been the movement of non-ferrous metal smelting to one of the top three places, the advance of the primary iron and steel industry particularly since the war years and the increasing prominence of the petroleum industry. During the Second World War the industries engaged in producing the equipment needed by the Armed Forces, such as shipbuilding, aircraft, automobiles, miscellaneous chemical products, and primary iron and steel, advanced to higher positions. When the War ended, certain industries engaged in the production of consumer goods bettered their positions.

During the past few years the ranking has changed little. In 1956, as compared with 1955, primary iron and steel moved ahead of sawmills, rubber goods moved up from fourteenth place to tenth, and aircraft and parts dropped from ninth to eleventh.

16.—Principal Statistics of the Forty Leading Manufacturing Industries, ranked according to the Selling Value of Factory Shipments, 1956

Industry	Estab- lish- ments	Em- ployees	Salaries and Wages	Cost at Plant of Materials Used	Value Added by Manufacture	Selling Value of Factory Shipments
	No.	No.	\$	\$	\$	\$
1 Pulp and paper.....	126	65,985	297,571,944	625,205,442	736,346,393	1,453,441,726
2 Non-ferrous metal smelting and refining.....	23	30,788	130,139,944	820,604,322	511,018,353	1,396,565,178 ¹
3 Petroleum products.....	61	13,925	66,341,638	766,375,257	444,427,813	1,253,798,979 ¹
4 Motor vehicles.....	16	35,099	149,948,223	697,299,987	298,259,463	988,143,273
5 Slaughtering and meat packing.....	154	24,667	90,471,885	667,993,524	171,398,415	844,888,684
6 Primary iron and steel.....	50	36,043	162,880,867	301,298,582	352,522,996	680,860,470
7 Sawmills.....	6,629	57,078	153,809,204	350,745,728	279,710,804	639,414,360 ¹
8 Butter and cheese.....	1,369	20,135	58,430,883	319,962,639	101,805,614	431,255,262
9 Miscellaneous electrical apparatus and supplies.....	161	26,501	99,639,414	205,428,688	199,624,836	393,561,949
10 Rubber goods, including foot- wear.....	91	23,136	82,154,889	160,686,586	198,602,139	355,583,815
11 Aircraft and parts.....	52	35,563	146,428,014	138,155,854	121,269,685	354,510,085 ¹
12 Railway rolling-stock.....	29	28,118	100,729,171	207,028,080	134,093,999	345,516,206 ¹
13 Miscellaneous food preparations.....	301	9,678	30,460,603	229,523,992	102,842,139	334,668,066
14 Motor vehicle parts.....	198	21,471	82,361,857	177,584,923	154,511,216	329,525,120
15 Machinery, industrial.....	329	26,575	102,884,112	142,776,773	200,479,761	329,447,227
16 Bread and other bakery pro- ducts.....	2,624	35,456	93,759,028	145,925,800	150,249,262	306,805,298
17 Printing and publishing.....	768	30,907	116,025,853	83,988,564	218,964,666	305,326,585
18 Furniture.....	1,890	32,724	93,468,751	148,015,272	148,496,496	297,554,404
19 Sheet metal products.....	381	20,012	73,745,487	162,747,069	135,728,461	296,043,123
20 Clothing, men's factory.....	551	32,041	75,171,943	155,425,652	118,984,426	272,145,915
21 Machinery, heavy electrical.....	74	23,636	95,729,972	116,074,348	163,584,152	261,832,208
22 Fruit and vegetable preparations.....	446	16,750	39,969,038	150,499,615	96,044,778	249,883,547
23 Telecommunication equipment.....	125	21,403	72,568,917	135,182,456	119,323,007	244,762,934
24 Brass and copper products.....	154	9,220	34,729,361	173,601,665	69,497,906	244,096,116
25 Castings, iron.....	199	17,361	66,815,656	123,391,722	122,732,230	244,028,587
26 Sash, door and planing mills.....	1,805	19,942	54,704,518	151,697,647	98,172,259	243,381,166
27 Boxes and bags, paper.....	215	15,529	48,851,694	150,435,248	90,933,771	241,444,038
28 Clothing, women's factory.....	683	25,821	63,223,780	132,860,064	106,186,011	237,611,438
29 Cotton yarn and cloth.....	50	21,939	59,458,812	144,017,345	87,365,325	236,360,054
30 Miscellaneous chemical pro- ducts, n.e.s.....	259	12,457	46,029,320	116,206,917	101,529,704	226,427,832
31 Printing and bookbinding.....	1,840	25,357	83,403,430	81,272,057	139,473,551	221,879,981
32 Flour mills.....	76	4,572	15,102,725	187,000,113	33,071,027	221,769,944
33 Feeds, stock and poultry.....	814	6,612	17,542,559	171,048,793	47,033,133	220,556,245
34 Breweries.....	59	8,724	36,770,347	53,046,993	161,030,802	215,897,007
35 Bridge and structural steel work.....	51	13,707	58,440,200	103,229,597	99,728,554	204,771,553 ¹
36 Acids, alkalis and salts.....	43	9,083	40,664,572	85,087,630	96,705,138	193,541,164
37 Fish processing.....	489	14,348	27,621,174	104,484,253	73,064,792	169,936,169
38 Tobacco, cigars and cigarettes.....	35	7,828	26,447,523	89,837,143	79,120,370	169,528,803
39 Synthetic textiles and silk.....	47	15,694	49,115,583	76,492,980	79,629,177	161,161,495
40 Wire and wire goods.....	133	10,195	39,801,217	89,906,441	72,529,912	160,458,338
Totals, Leading Industries.....	23,405	906,050	3,183,414,108	8,942,245,761	6,798,042,536	15,978,384,349
Totals, All Industries.....	37,428	1,353,020	4,570,692,190	11,721,536,889	9,605,424,579	21,636,748,986

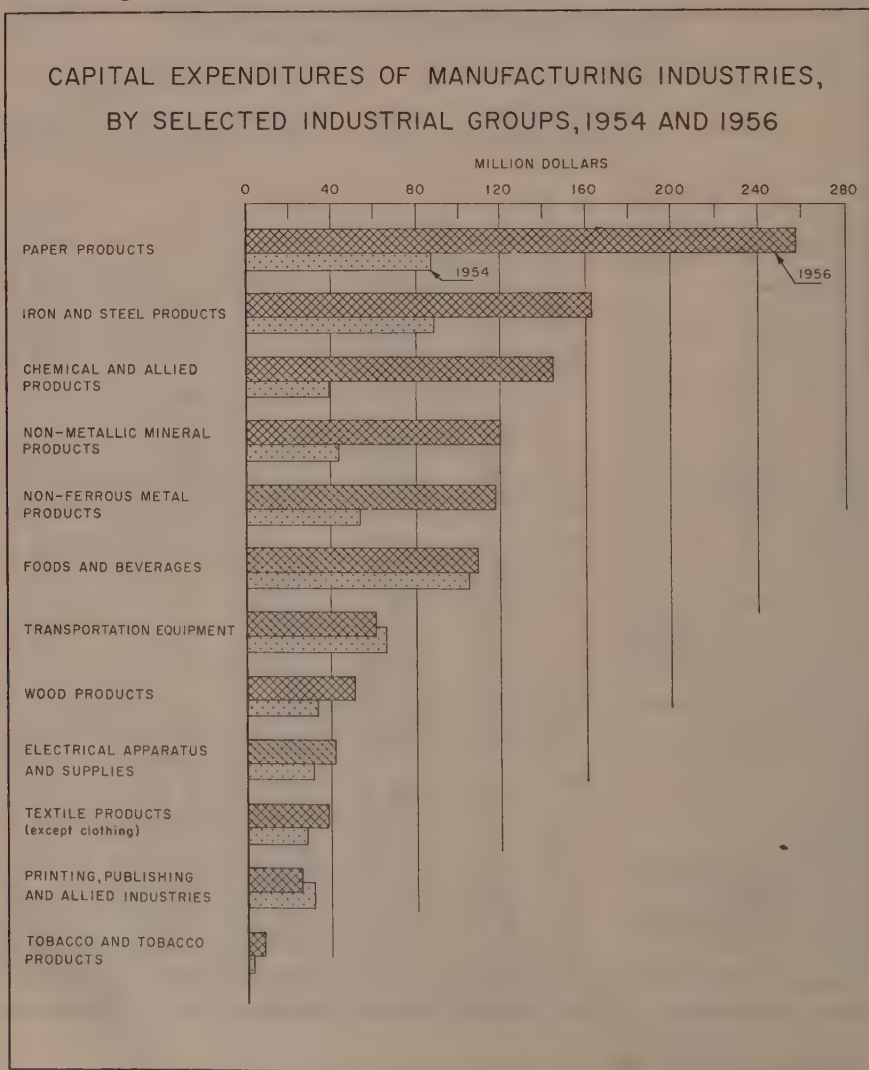
¹ Reported on a production basis

Section 3.—Principal Factors in Manufacturing Production

One of the principal factors indicating the trend of growth in manufacturing production is the amount paid as salaries and wages to various groups of employees within these industries. In past years a comprehensive study of employee earnings has appeared in this Chapter of the Year Book, supported by a number of tables detailing earnings by employee classification, by province, and by type of industry. Such statistics appear in this edition in Subsection 2 of Chapter XVII.

Subsection 1.—Capital and Repair Expenditure

The present series of statistics covering expenditure on fixed capital and repairs by manufacturing industries commences with the year 1944.



Capital expenditures by manufacturers in 1956 totalled \$487,700,000 for construction and \$906,100,000 for machinery and equipment, while \$577,800,000 went for repairs. Of the total capital expenditures, amounting to \$1,393,800,000 in 1956, 18.5 p.c. was reported by the paper products group, 11.7 p.c. by iron and steel, 10.4 p.c. by chemicals and allied products, 8.6 p.c. by non-metallic mineral products, 8.4 p.c. by products of the non-ferrous metals group, 7.8 p.c. by foods and beverages, 6.7 p.c. by petroleum and coal, 4.3 p.c. by transportation equipment, and 3.6 p.c. by the wood products group.

Of the nine groups reporting capital expenditures of \$50,000,000 or more in 1956, eight reported higher expenditures than in 1955; the petroleum and coal group showed a decrease of \$16,000,000. Of the other groups, paper products led the list with an increase of \$118,700,000, followed by chemicals and allied products with \$88,600,000, non-metallic mineral products with \$72,500,000, iron and steel with \$67,300,000, non-ferrous metal products with \$33,500,000, wood products with \$7,900,000, transportation equipment with \$6,000,000, and foods and beverages with \$5,200,000.

17.—Capital and Repair Expenditures by the Manufacturing Industries, 1947-56, and by Province and Industrial Group, 1956

Year, Province and Industrial Group	Capital Expenditure			Repair Expenditure		
	Con- struction	Mach- inery and Equip- ment	Total	Con- struction	Mach- inery and Equip- ment	Total
	\$'000,000	\$'000,000	\$'000,000	\$'000,000	\$'000,000	\$'000,000
1947.....	184.7	343.2	527.9	62.4	210.7	273.1
1948.....	184.8	394.2	579.0	78.9	253.9	332.8
1949.....	166.6	379.2	535.8	66.7	267.2	333.9
1950.....	135.4	367.1	502.5	67.6	279.0	346.6
1951.....	267.6	525.0	792.6	85.0	337.0	422.0
1952.....	343.6	629.0	972.6	95.2	363.5	458.7
1953.....	324.5	644.5	969.0	94.6	385.5	480.1
1954.....	287.6	534.5	822.1	97.6	390.9	488.5
1955.....	344.5	601.8	946.3	100.6	413.0	513.6
1956						
Newfoundland.....	1.7	7.8	9.5	1.6	5.1	6.7
Prince Edward Island.....	—	0.2	0.2	—	0.2	0.2
Nova Scotia.....	15.8	9.4	25.2	5.9	9.0	14.9
New Brunswick.....	4.5	12.7	17.2	1.5	9.2	10.7
Quebec.....	114.1	222.6	336.7	30.2	130.8	161.0
Ontario.....	189.2	440.9	630.1	49.7	239.2	288.9
Manitoba.....	9.2	15.0	24.2	3.9	9.3	13.2
Saskatchewan.....	6.7	12.6	19.3	2.2	2.1	4.3
Alberta.....	55.5	58.6	114.1	5.9	10.9	16.8
British Columbia.....	91.0	126.3	217.3	11.3	49.8	61.1
Canada, 1956.....	487.7	906.1	1,393.8	112.2	465.6	577.8
Foods and beverages.....	32.6	76.5	109.1	12.2	45.0	57.2
Tobacco and tobacco products.....	3.5	4.7	8.2	0.9	2.1	3.0
Rubber products.....	2.9	11.0	13.9	1.1	7.4	8.5
Leather products.....	1.8	2.5	4.3	0.7	2.5	3.2
Textile products (except clothing).....	10.3	28.0	38.3	3.4	17.1	20.5
Clothing (textile and fur).....	1.3	8.4	9.7	1.2	4.4	5.6
Wood products.....	14.0	36.8	50.8	7.4	28.8	36.2
Paper products.....	85.1	172.3	257.4	10.3	85.6	95.9
Printing, publishing and allied industries.....	5.3	20.2	25.5	1.6	5.5	7.1
Iron and steel products.....	40.3	122.2	162.5	15.4	93.5	108.9
Transportation equipment.....	16.7	43.6	60.3	10.6	32.0	42.6
Non-ferrous metal products.....	62.4	55.0	117.4	11.4	50.9	62.3
Electrical apparatus and supplies.....	14.7	26.8	41.5	3.8	15.6	19.4
Non-metallic mineral products.....	51.4	68.6	120.0	3.0	31.7	34.7
Products of petroleum and coal.....	83.9	9.1	93.0	21.6	8.1	29.7
Chemicals and allied products.....	57.9	87.0	144.9	6.2	31.9	38.1
Miscellaneous industries.....	3.6	8.7	12.3	1.4	3.5	4.9
Capital items charged to operating expense.....	—	124.7	124.7	—	—	—

¹ Includes knitting mills.

Subsection 2.—Size of Manufacturing Establishments

The size of a manufacturing establishment is generally measured either by the value of factory shipments or by the number of employees but each of these methods has its limitations. The former measure has to be adjusted for changes in the price level and, as between industries, it makes those in which the cost of raw materials is relatively high appear to operate on a larger scale. The latter takes no account of the differences in capital equipment at different times or in various industries and obviously the increased use of machinery may lead to an increase in production concurrently with a decrease in number of employees.

Size as Measured by Selling Value of Factory Shipments.—In 1946, after heavy wartime production had ceased and reconversion had barely begun, there were 1,442 manufacturing establishments, each with an output of \$1,000,000 or over. Their combined production was valued at \$5,377,870,217 and accounted for 66.9 p.c. of the total for all manufacturing plants. By 1949, the number of factories in that category had increased to 1,926 and the proportion of their production to the total was 74.4 p.c. As a result of the tremendous industrial expansion and the increase in prices of the 1950's, the number of plants with shipments valued at over \$1,000,000 increased to 2,979 in 1956. These plants contributed 81 p.c. of the total output in that year.

18.—Manufacturing Establishments and Total and Average Production classified by Value of Product Group, 1946, 1949, 1955 and 1956

Gross Value Group ¹	Estab- lish- ments	Total Production	Average per Estab- lishment	Estab- lish- ments	Total Production	Average per Estab- lishment
	No.	\$	\$	No.	\$	\$
1946						
Under \$25,000.....	14,478	138,504,608	9,566	16,176	145,907,685	9,020
\$ 25,000 but under \$ 50,000.....	4,524	162,355,572	35,888	4,884	174,899,010	35,810
50,000 " 100,000.....	3,958	282,976,378	71,495	4,487	320,878,071	71,513
100,000 " 200,000.....	3,060	433,302,078	141,602	3,630	514,921,581	141,852
200,000 " 500,000.....	2,620	824,481,340	314,687	3,195	1,000,486,294	313,141
500,000 " 1,000,000.....	1,167	816,202,278	699,402	1,494	1,041,235,578	696,945
1,000,000 " 5,000,000.....	1,183	2,376,006,853	2,008,459	1,505	3,164,936,378	2,102,948
5,000,000 or over.....	259	3,001,863,364	11,590,206	421	6,116,328,703	14,528,097
Totals and Averages.....	31,249	8,035,692,471	257,150	35,792	12,479,593,300	348,670
1955 ²						
Under \$25,000.....	15,327	143,480,957	9,362	14,016	133,408,345	9,518
\$ 25,000 but under \$ 50,000.....	5,112	184,847,245	36,159	4,980	179,826,287	36,110
50,000 " 100,000.....	4,781	343,512,650	50,933	4,905	352,055,444	71,775
100,000 " 200,000.....	4,250	608,414,152	143,156	4,266	608,290,084	142,590
200,000 " 500,000.....	3,970	1,261,916,569	317,863	4,149	1,313,515,996	316,586
500,000 " 1,000,000.....	2,013	1,411,584,589	701,234	2,133	1,494,648,452	700,726
1,000,000 " 5,000,000.....	2,101	4,364,363,277	2,077,279	2,284	4,793,887,428	2,098,900
5,000,000 or over.....	628	11,195,814,372	17,827,730	695	12,761,116,950	18,361,319
Totals and Averages.....	38,182	19,513,933,811	511,077	37,428	21,636,748,986	578,090
1956 ²						
Under \$25,000.....	15,327	143,480,957	9,362	14,016	133,408,345	9,518
\$ 25,000 but under \$ 50,000.....	5,112	184,847,245	36,159	4,980	179,826,287	36,110
50,000 " 100,000.....	4,781	343,512,650	50,933	4,905	352,055,444	71,775
100,000 " 200,000.....	4,250	608,414,152	143,156	4,266	608,290,084	142,590
200,000 " 500,000.....	3,970	1,261,916,569	317,863	4,149	1,313,515,996	316,586
500,000 " 1,000,000.....	2,013	1,411,584,589	701,234	2,133	1,494,648,452	700,726
1,000,000 " 5,000,000.....	2,101	4,364,363,277	2,077,279	2,284	4,793,887,428	2,098,900
5,000,000 or over.....	628	11,195,814,372	17,827,730	695	12,761,116,950	18,361,319
Totals and Averages.....	38,182	19,513,933,811	511,077	37,428	21,636,748,986	578,090

¹ In 1952 gross value of products was replaced by selling value of factory shipments.

² Includes New-foundland.

Size as Measured by Number of Employees.—In 1946 the 311 establishments employing 500 hands or over accounted for 32.3 p.c. of the total number of employees engaged in manufacturing. In 1956 there were 400 plants with more than 500 employees, 66 of them with over 1,500. The 400 plants employed 36.5 p.c. of the total workers in all manufacturing establishments.

19.—Establishments and Employees in Manufactures classified by Number of Employees per Establishment, 1946, 1949, 1955 and 1956

Employee Group	Estab- lishments	Employees	Average per Estab- lishment	Estab- lishments	Employees	Average per Estab- lishment
	1946			1949		
	No.	No.	No.	No.	No.	No.
Under 5 employees.....	13,810	32,664	2.4	16,647	34,865	2.1
5 to 14 ".....	8,190	67,530	8.2	9,133	75,482	8.3
15 " 49 ".....	5,488	146,939	26.7	5,967	159,012	26.7
50 " 99 ".....	1,759	122,919	69.8	1,905	132,069	69.3
100 " 199 ".....	1,032	144,240	139.7	1,114	156,084	140.1
200 " 499 ".....	659	202,114	306.7	694	213,130	307.1
500 " 999 ".....	311	341,750	1,098.9	332	391,455	1,179.1
1,000 or over.....	—	—	—	—	9,110	—
Head offices ¹	—	—	—	—	—	—
Totals and Averages.....	31,249	1,058,156	33.9	35,792	1,171,207	32.7
	1955 ²			1956 ²		
	No.	No.	No.	No.	No.	No.
Under 5 employees.....	16,762	36,340	2.2	15,807	34,424	2.2
5 to 14 ".....	9,864	81,471	8.3	9,768	81,151	8.3
15 " 49 ".....	6,340	169,575	26.7	6,468	173,156	26.8
50 " 99 ".....	2,082	144,411	69.4	2,101	145,886	69.4
100 " 199 ".....	1,175	163,091	138.8	1,221	168,495	138.0
200 " 499 ".....	739	227,667	308.1	777	239,195	307.8
500 " 999 ".....	243	167,720	690.2	260	181,986	699.9
1,000 " 1,499 ".....	76	91,840	1,208.4	74	91,452	1,235.8
1,500 or over.....	61	200,413	3,285.5	66	220,723	3,344.3
Head offices ¹	—	15,933	—	—	16,552	—
Not classifiable.....	840	—	—	886	—	—
Totals and Averages.....	38,182	1,298,461	34.0	37,428	1,353,020	36.1

¹ Includes only those head offices that are not located at a plant.² Includes Newfoundland.

20.—Manufacturing Establishments classified by Number of Employees and by Province, 1956

Province or Territory	Employees—					Total
	Up to 499	500 to 799	800 to 999	1,000 to 1,499	1,500 or Over	
	No.	No.	No.	No.	No.	No.
Newfoundland.....	781	—	—	1	1	783
Prince Edward Island.....	192	—	—	—	—	192
Nova Scotia.....	1,395	1	4	—	2	1,402
New Brunswick.....	996	5	1	2	—	1,004
Quebec.....	11,973	62	25	28	24	12,112
Ontario.....	13,018	96	32	36	33	13,215
Manitoba.....	1,524	4	2	2	2	1,534
Saskatchewan.....	798	—	—	—	—	798
Alberta.....	1,962	7	1	1	—	1,971
British Columbia.....	4,365	13	7	4	4	4,393
Yukon and Northwest Territories.....	24	—	—	—	—	24
Canada.....	37,028	188	72	74	66	37,428

Size of Establishments in Leading Industries.—Table 21 shows the degree of concentration in some of the leading industries of Canada. Concentration is extremely marked in the motor vehicle, non-ferrous metal smelting and refining, aircraft and parts, railway rolling-stock, pulp and paper, rubber goods, cotton yarn and cloth, primary iron and steel, and heavy electrical machinery industries. On the other hand, the degree of concentration is low in such industries as women's and men's factory clothing, furniture, butter and cheese, miscellaneous food preparations, fruit and vegetable preparations, bread and other bakery products, and sawmills.

21.—Percentage Importance of Establishments, each Employing 200 or more Persons, in the 25 Leading Industries, 1956

	Industry	Number of Establishments Employing 200 or more Persons	Percentage of Total Establishments in the Industry	Percentage of Total Shipments in the Industry
1	Pulp and paper.....	80	63.5	95.1
2	Non-ferrous metal smelting and refining.....	20	87.0	98.3
3	Petroleum products.....	17	27.9	83.5
4	Motor vehicles.....	9	56.3	99.0
5	Slaughtering and meat packing.....	33	21.4	78.2
6	Primary iron and steel.....	16	32.0	91.7
7	Sawmills.....	23	0.03	26.5
8	Butter and cheese.....	19	1.4	22.0
9	Miscellaneous electrical apparatus and supplies.....	26	16.1	81.4
10	Rubber goods, including footwear.....	25	27.5	91.5
11	Aircraft and parts.....	17	32.7	97.4
12	Railway rolling-stock.....	18	62.1	96.5
13	Miscellaneous food preparations.....	4	1.3	17.4
14	Motor vehicle parts.....	23	11.6	75.0
15	Machinery, industrial.....	33	10.0	60.0
16	Bread and other bakery products.....	26	1.0	31.8
17	Printing and publishing.....	33	4.3	69.3
18	Furniture.....	17	0.09	17.6
19	Sheet metal products.....	26	6.8	55.9
20	Clothing, men's factory.....	34	6.2	37.3
21	Machinery, heavy electrical.....	20	27.0	82.7
22	Fruit and vegetable preparations.....	8	1.8	35.3
23	Telecommunication equipment.....	26	20.8	80.4
24	Brass and copper products.....	12	7.8	46.1
25	Castings, iron.....	23	11.6	78.4

PART III.—PROVINCIAL AND LOCAL DISTRIBUTION OF MANUFACTURING PRODUCTION

Section 1.—Provincial Distribution of Manufacturing Production

This Section shows the distribution and concentration of the manufacturing industries in each province followed by a general analysis of the leading industries in the individual provinces. Ontario and Quebec are by far the most important manufacturing provinces of Canada. Their combined production in 1956 amounted to \$17,277,601,319 or 80 p.c. of the total factory shipments of manufactured products. The water power and other varied resources of the two provinces and their nearness to the larger markets of Canada and the United States have contributed to this progress.

Table 1 shows the outstanding predominance of Ontario and Quebec in each industrial group. Quebec leads in the manufacture of tobacco and tobacco products, textiles and clothing and paper products. In each of the other groups Ontario has the greater production of the two provinces. In the production of wood products British Columbia, with 42 p.c. of the total, holds the dominant position, outranking both Ontario and Quebec which account for 25 and 22 p.c. respectively of the total. In each of the other groups Ontario and Quebec lead by a wide margin.

1.—Summary Statistics of Manufactures of each Province classified by Industrial Group, 1956

Province and Industrial Group	Estab- lish- ments	Em- ployees	Salaries and Wages	Cost at Plant of Materials Used	Value Added by Manufacture	Selling Value of Factory Shipments
	No.	No.	\$	\$	\$	\$
Newfoundland						
Foods and beverages.....	87	3,898	7,512,203	18,191,830	16,042,195	34,492,121
Leather products.....	5	116	231,593	431,250	264,902	667,403
Textiles.....	4	93	238,152	361,045	325,689	728,054
Knitting mills.....	1	1	1	1	1	1
Clothing.....	3	173	232,277	282,412	276,270	541,873
Wood products.....	604	1,518	2,014,027	4,012,106	3,119,228	7,428,339
Paper products ²	2	3,369	16,434,551	28,030,105	35,444,029	68,085,288
Printing, publishing and allied in- dustries.....	40	446	1,258,016	768,641	2,188,485	3,001,271
Iron and steel products.....	10	284	840,864	883,659	1,401,323	2,136,778
Transportation equipment.....	4	20	43,839	26,630	49,941	79,543
Electrical apparatus and supplies.....	1	1	1	1	1	1
Non-metallic mineral products.....	12	350	1,158,722	1,334,360	2,554,139	4,483,328
Products of petroleum and coal.....	1	1	1	1	1	1
Chemicals and allied products.....	5	78	207,746	830,905	652,989	1,469,308
Miscellaneous industries.....	7	157	290,745	299,013	288,519	578,038
Totals, Newfoundland.....	783	10,502	30,462,735	55,451,956	62,607,709	123,691,344
Prince Edward Island						
Foods and beverages.....	93	1,179	2,126,592	14,392,800	4,232,652	19,115,958
Tobacco and tobacco products.....	1	1	1	1	1	1
Textiles.....	4	79	146,341	1,217,971	266,294	1,463,046
Wood products.....	71	223	299,453	486,831	510,377	1,027,527
Paper products.....	1	1	1	1	1	1
Printing, publishing and allied in- dustries.....	11	169	375,230	167,867	597,817	783,888
Iron and steel products.....	4	27	63,472	94,554	92,718	184,101
Transportation equipment.....	1	1	1	1	1	1
Non-metallic mineral products.....	3	13	30,199	21,496	52,252	80,936
Chemicals and allied products.....	1	1	1	1	1	1
All other groups.....	6	85	192,117	1,425,323	409,518	1,841,789
Totals, Prince Edward Island.....	192	1,775	3,233,404	17,806,842	6,161,628	24,497,245
Nova Scotia						
Foods and beverages.....	345	8,076	16,424,089	59,242,296	31,580,016	92,103,930
Leather products.....	3	71	156,430	216,340	232,997	451,300
Textiles.....	13	487	1,153,715	2,706,653	3,266,753	6,065,945
Knitting mills.....	5	927	1,698,722	3,614,638	2,950,644	6,556,228
Clothing.....	9	398	614,000	1,489,883	906,238	2,362,036
Wood products.....	712	4,218	7,309,368	19,478,223	13,202,651	33,210,003
Paper products.....	7	1,484	5,211,332	10,309,389	13,389,452	25,241,787
Printing, publishing and allied in- dustries.....	141	1,413	4,037,648	2,495,936	7,720,013	10,315,291
Iron and steel products.....	49	6,596	23,551,125	38,403,611	36,438,393	76,547,067
Transportation equipment.....	58	5,310	16,530,988	24,010,191	25,093,403	49,870,296
Electrical apparatus and supplies.....	1	1	1	1	1	1
Non-metallic mineral products.....	26	606	1,629,762	1,859,750	3,664,295	6,116,931
Products of petroleum and coal.....	1	1	1	1	1	1
Chemicals and allied products.....	16	284	860,122	2,895,358	2,569,897	5,805,673
Miscellaneous industries.....	18	1,067	4,771,209	48,056,821	18,815,490	69,751,616
Totals, Nova Scotia.....	1,402	30,937	83,948,510	214,779,069	159,820,242	384,398,103
New Brunswick						
Foods and beverages.....	321	6,635	14,040,865	76,599,964	32,251,498	110,856,887
Leather products.....	7	310	626,725	1,140,468	1,066,279	2,211,481
Textiles.....	14	773	1,642,768	2,426,897	1,767,497	4,423,673
Knitting mills.....	1	1	1	1	1	1
Clothing.....	4	150	191,223	272,686	255,594	521,953
Wood products.....	478	3,911	7,470,192	20,236,733	13,001,964	33,822,625
Paper products.....	16	4,587	19,261,696	51,383,064	47,060,554	105,365,921

¹ Confidential; included in "Miscellaneous industries". ² Publication of these figures was authorized by the firms concerned.

³ Confidential; included in "All other groups".

1.—Summary Statistics of Manufactures of each Province classified by Industrial Group, 1956—continued

Province and Industrial Group	Estab- lish- ments	Em- ployees	Salaries and Wages	Cost at Plant of Materials Used	Value Added by Manufacture	Selling Value of Factory Shipments
	No.	No.	\$	\$	\$	\$
New Brunswick—concluded						
Printing, publishing and allied in- dustries.....	72	974	2,533,879	1,680,892	4,360,834	6,147,264
Iron and steel products.....	31	1,350	3,858,532	6,928,004	7,102,185	14,062,451
Transportation equipment.....	8	2,219	6,705,990	8,069,124	8,334,876	16,680,411
Non-ferrous metal products.....	1	1	1	1	1	1
Non-metallic mineral products.....	27	553	1,665,490	1,850,991	3,959,959	6,903,566
Products of petroleum and coal.....	1	1	1	1	1	1
Chemicals and allied products.....	9	149	467,912	3,118,034	1,200,294	4,565,905
Miscellaneous industries.....	17	949	2,598,029	2,733,449	4,952,954	7,718,462
Totals, New Brunswick.....	1,004	22,560	61,063,301	176,440,306	125,314,488	313,280,599
Quebec						
Foods and beverages.....	2,622	47,170	131,497,271	665,869,615	338,634,681	1,017,902,846
Tobacco and tobacco products.....	29	7,610	25,401,504	87,450,941	74,134,924	162,189,718
Rubber products.....	35	6,877	20,706,605	28,771,073	37,322,772	65,052,656
Leather products.....	351	16,673	36,549,774	55,493,886	54,993,680	110,901,398
Textiles.....	444	39,760	109,321,931	233,328,192	171,677,880	412,018,417
Knitting mills.....	147	10,490	23,212,591	40,263,626	37,445,389	77,757,340 ^a
Clothing.....	1,559	56,497	126,086,297	261,943,691	208,868,296	469,088,037
Wood products.....	3,156	34,684	81,388,305	178,160,560	144,470,237	323,479,237
Paper products.....	193	37,222	154,188,880	340,515,063	357,243,361	742,161,888
Printing, publishing and allied in- dustries.....	1,255	19,549	67,073,064	65,715,054	123,583,504	190,479,617
Iron and steel products.....	704	44,593	164,222,367	268,482,367	301,439,896	566,429,391
Transportation equipment.....	115	33,927	127,374,722	162,769,485	184,781,090	352,018,841
Non-ferrous metal products.....	193	19,613	75,078,926	503,028,394	228,859,051	765,829,926
Electrical apparatus and supplies.....	98	24,303	88,948,191	145,773,511	150,291,448	285,052,524
Non-metallic mineral products.....	348	11,783	40,877,285	61,976,748	93,413,000	169,249,003
Products of petroleum and coal.....	19	3,662	16,678,535	283,357,498	159,619,036	460,447,263
Chemicals and allied products.....	365	21,194	79,090,202	178,640,246	169,485,926	356,932,499
Miscellaneous industries.....	479	10,526	28,718,114	43,981,716	51,884,587	95,511,715
Totals, Quebec.....	12,112	446,137	1,396,414,564	3,605,521,666	2,888,148,758	6,622,502,699
Ontario						
Foods and beverages.....	2,865	73,134	225,591,853	954,985,896	563,241,631	1,541,164,773
Tobacco and tobacco products.....	19	1,989	4,879,299	62,645,595	14,124,980	76,997,344
Rubber products.....	48	16,191	61,228,450	131,739,169	160,856,206	289,917,252
Leather products.....	230	12,946	34,362,921	60,602,059	51,574,293	112,348,261
Textiles.....	378	27,771	81,611,581	173,240,616	137,220,552	316,103,918
Knitting mills.....	120	9,957	23,556,803	38,157,095	38,594,885	76,929,479
Clothing.....	700	24,208	61,482,716	98,001,154	96,361,690	193,720,881
Wood products.....	2,438	37,113	104,248,659	183,686,372	167,495,757	353,921,923
Paper products.....	263	35,733	142,867,109	333,381,487	326,996,907	687,695,184
Printing, publishing and allied in- dustries.....	1,883	36,631	135,308,455	120,784,379	240,445,208	362,906,060
Iron and steel products.....	1,497	123,365	496,123,648	865,555,742	940,193,303	1,821,034,425
Transportation equipment.....	249	84,391	345,631,105	1,038,786,265	614,522,337	1,647,169,029
Non-ferrous metal products.....	304	27,212	106,584,300	485,433,888	339,557,989	844,909,087
Electrical apparatus and supplies.....	310	56,656	213,771,653	393,210,322	411,767,061	770,502,085
Non-metallic mineral products.....	527	20,368	76,004,597	105,300,625	168,144,728	292,658,033
Products of petroleum and coal.....	35	7,458	34,687,112	263,131,684	158,778,753	437,538,165
Chemicals and allied products.....	558	25,893	99,578,302	290,183,395	316,986,746	623,257,477
Miscellaneous industries.....	791	20,174	63,125,828	84,922,345	121,707,225	206,325,242
Totals, Ontario.....	13,215	641,190	2,310,634,396	5,683,753,088	4,868,570,251	10,655,098,620
Manitoba						
Foods and beverages.....	372	9,022	31,481,477	163,529,747	70,130,282	236,670,887
Rubber products.....	3	12	25,268	45,762	92,963	132,100
Leather products.....	21	693	1,567,032	3,454,036	2,582,782	5,919,663
Textiles.....	37	739	1,803,180	7,352,877	3,332,823	10,760,076

^a Confidential; included in "Miscellaneous industries".

1.—Summary Statistics of Manufactures of each Province classified by Industrial Group, 1956—continued

Province and Industrial Group	Estab-lish-ments	Em-ployees	Salaries and Wages	Cost at Plant of Materials Used	Value Added by Manufacture	Selling Value of Factory Shipments
	No.	No.	\$	\$	\$	\$
Manitoba—concluded						
Knitting mills.....	4	78	157,063	477,023	344,375	823,300
Clothing.....	154	5,728	13,386,227	25,549,658	20,256,204	45,851,864
Wood products.....	281	3,033	8,231,738	15,914,000	12,771,097	29,139,174
Paper products.....	24	1,512	5,436,599	15,196,062	15,386,379	31,907,448
Printing, publishing and allied industries.....	295	3,793	11,743,501	9,907,556	21,263,529	31,369,604
Iron and steel products.....	130	5,542	19,793,751	35,083,313	38,375,541	72,773,774
Transportation equipment.....	28	6,604	22,833,892	23,289,773	24,308,367	48,179,474
Non-ferrous metal products.....	18	465	1,769,879	9,199,933	12,023,303	21,710,535
Electrical apparatus and supplies.....	20	1,050	3,230,676	5,916,614	6,634,950	12,545,808
Non-metallic mineral products.....	44	1,403	4,346,619	7,490,955	12,275,640	22,547,633
Products of petroleum and coal.....	7	780	3,583,085	33,047,319	20,460,973	55,653,836
Chemicals and allied products.....	37	744	2,165,147	7,840,099	6,128,728	14,012,930
Miscellaneous industries.....	59	723	1,950,837	3,730,039	3,649,618	7,391,079
Totals, Manitoba.....	1,534	42,821	133,505,971	367,024,766	270,017,554	647,389,185
Saskatchewan						
Foods and beverages.....	225	5,052	15,810,305	88,825,046	38,043,926	128,541,293
Textiles.....	8	72	140,474	828,552	245,051	1,084,936
Clothing.....	12	250	580,958	1,097,655	1,125,369	2,269,760
Wood products.....	241	1,243	2,865,865	4,615,562	4,856,250	9,633,716
Paper products.....	4	25	73,033	134,354	224,409	355,004
Printing, publishing and allied industries.....	185	1,533	4,554,413	3,286,240	8,049,612	11,506,711
Iron and steel products.....	50	851	2,504,993	4,649,601	3,364,004	8,026,237
Transportation equipment.....	5	16	43,980	36,501	66,727	106,359
Non-ferrous metal products.....	1	1	1	1	1	1
Electrical apparatus and supplies.....	1	1	1	1	1	1
Non-metallic mineral products.....	31	464	1,441,154	1,664,998	2,902,571	4,783,369
Products of petroleum and coal.....	12	1,254	5,466,124	54,652,371	28,781,969	86,806,022
Chemicals and allied products.....	9	200	780,001	2,611,721	1,092,119	3,673,536
Miscellaneous industries.....	16	576	2,422,083	14,468,587	24,875,635	41,416,546
Totals, Saskatchewan.....	798	11,536	36,683,383	176,871,188	113,627,642	298,203,489
Alberta						
Foods and beverages.....	425	11,241	34,967,306	204,179,337	83,106,085	287,687,720
Rubber products.....	1	1	1	1	1	1
Leather products.....	10	42	98,671	103,204	132,916	232,699
Textiles.....	20	375	1,425,493	3,804,174	2,367,369	5,784,911
Knitting mills.....	4	44	88,498	93,849	138,955	230,068
Clothing.....	24	915	2,143,827	4,742,285	3,892,760	8,398,603
Wood products.....	821	5,825	13,902,032	28,184,482	25,799,240	54,655,115
Paper products.....	14	635	2,195,460	7,045,264	5,320,206	12,376,899
Printing, publishing and allied industries.....	277	2,618	8,014,054	6,683,353	16,230,084	23,080,561
Iron and steel products.....	160	4,232	15,417,023	28,468,054	27,832,588	55,286,716
Transportation equipment.....	22	3,054	10,658,084	12,413,531	11,757,040	24,343,894
Non-ferrous metal products.....	12	760	3,387,350	8,454,870	9,047,591	17,866,279
Electrical apparatus and supplies.....	7	177	609,750	2,947,462	985,893	3,773,752
Non-metallic mineral products.....	72	2,735	8,970,568	14,193,140	21,537,746	37,635,783
Products of petroleum and coal.....	20	2,055	9,315,296	76,654,518	52,030,831	132,699,568
Chemicals and allied products.....	32	1,703	7,636,306	12,920,905	23,192,506	35,356,192
Miscellaneous industries.....	61	381	1,365,387	1,240,819	2,458,951	3,779,979
Totals, Alberta.....	1,971	36,792	120,195,105	412,138,247	285,830,811	703,188,739
British Columbia						
Foods and beverages.....	663	16,683	52,132,590	228,272,295	134,096,419	357,936,229
Tobacco and tobacco products.....	1	1	1	1	1	1
Rubber products.....	4	53	187,640	129,279	321,537	470,565
Leather products.....	19	533	1,376,888	2,349,589	2,009,531	4,299,780

1 Confidential; included in "Miscellaneous industries".

1.—Summary Statistics of Manufactures of each Province classified by Industrial Group, 1956—concluded

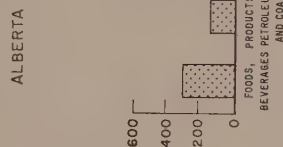
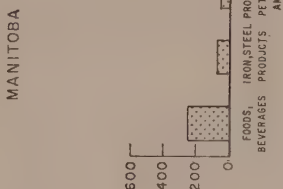
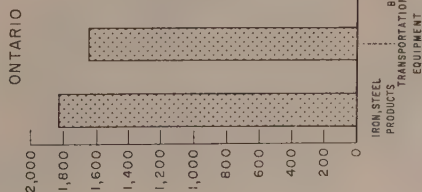
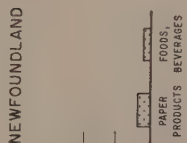
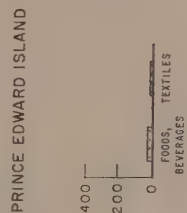
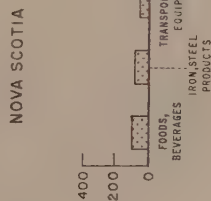
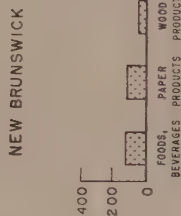
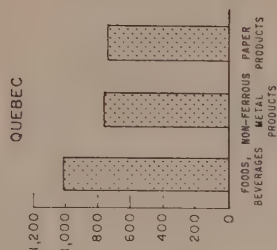
Province or Territory and Industrial Group	Estab-lish-ments	Em-ployees	Salaries and Wages	Cost at Plant of Materials Used	Value Added by Manufacture	Selling Value of Factory Shipments
	No.	No.	\$	\$	\$	\$
British Columbia—concluded						
Textiles.....	43	724	1,843,875	5,153,113	3,360,799	8,544,151
Knitting mills.....	4	278	688,534	1,080,076	1,402,236	2,348,609
Clothing.....	60	1,480	3,498,686	5,869,603	5,323,083	11,014,955
Wood products.....	2,288	43,755	148,454,608	333,387,130	260,655,238	599,637,945
Paper products.....	44	9,181	41,217,077	99,040,890	107,631,115	214,370,009
Printing, publishing and allied in- dustries.....	424	5,224	19,421,095	13,699,146	34,727,110	48,770,712
Iron and steel products.....	327	10,073	39,984,381	67,244,736	73,720,433	140,240,237
Transportation equipment.....	101	5,691	23,683,055	16,841,586	37,151,290	54,337,935
Non-ferrous metal products.....	49	7,018	29,943,136	107,776,808	51,353,768	167,807,430
Electrical apparatus and supplies....	35	824	3,174,199	9,639,057	6,164,995	16,215,380
Non-metallic mineral products.....	93	1,890	7,098,767	11,179,428	14,316,712	28,080,527
Products of petroleum and coal.....	9	1,624	7,653,575	76,278,946	51,634,715	132,113,205
Chemicals and allied products.....	97	2,525	9,825,019	26,668,516	34,625,881	63,993,654
Miscellaneous industries.....	133	1,089	3,688,263	3,272,148	5,754,411	9,187,143
Totals, British Columbia.....	4,393	108,595	393,869,388	1,007,882,346	824,249,273	1,859,368,466
Yukon and N.W.T.						
Foods and beverages.....	5	18	49,708	85,243	133,378	229,611
Wood products.....	13	60	165,020	303,325	341,264	656,573
All other groups ¹	6	97	466,705	3,478,847	601,581	4,244,313
Totals, Yukon and N.W.T.....	24	175	681,433	3,867,415	1,076,223	5,130,497

¹ Includes acids, alkalies and salts; jewellery and silverware; petroleum products; printing and publishing; and sheet metal products.

2.—Concentration of Manufacturing Production in each Province, 1955 and 1956

Province or Territory	1955			1956		
	Number of Establish-ments Employing 500 or more Persons	Percentage of Total Number of Establish-ments in Province	Provincial Percentage of Number of Employees Accounted for by these Establish-ments	Number of Establish-ments Employing 500 or more Persons	Percentage of Total Number of Establish-ments in Province	Provincial Percentage of Number of Employees Accounted for by these Establish-ments
Newfoundland.....	3	0.4	39.4	2	0.3	32.1
Prince Edward Island..	—	—	—	—	—	—
Nova Scotia.....	5	0.3	26.8	7	0.5	32.1
New Brunswick.....	7	0.7	28.8	8	0.8	31.1
Quebec.....	133	1.1	37.3	139	1.1	38.0
Ontario.....	181	1.4	39.3	197	1.5	40.8
Manitoba.....	10	0.6	23.9	10	0.7	24.6
Saskatchewan.....	—	—	—	—	—	—
Alberta.....	7	0.3	14.9	9	0.5	18.6
British Columbia.....	29	0.6	26.9	28	0.6	27.5
Yukon and Northwest Territories.....	—	—	—	—	—	—
Canada.....	380	1.0	35.7	400	1.1	36.9

PRODUCTION OF MANUFACTURED GOODS BY MAJOR INDUSTRIAL GROUPS WITHIN EACH PROVINCE, 1956 SELLING VALUE OF FACTORY SHIPMENTS IN MILLIONS OF DOLLARS



Subsection 1.—The Manufactures of the Atlantic Provinces

The Atlantic Provinces are of economic importance in a number of fields, such as pulp and paper, fish processing, sawmills and primary iron and steel. In *Newfoundland* manufacturing production is dominated by the forest and fisheries resources. Pulp and paper is by far the most important industry, having shipments valued at \$68,085,288 in 1956, followed by fish processing with shipments of \$18,279,005. These two industries accounted for 70 p.c. of the total production of the province. In *Prince Edward Island* agriculture and fishing resources make butter and cheese, slaughtering and meat packing, and fish processing the leading industries. *Nova Scotia* is renowned for its coal mines, its fisheries and its extensive forests and agricultural lands; it is also favoured with easy access by sea to the high-grade iron ore supply of Newfoundland. On these resources are based the leading manufactures of primary iron and steel, fish processing, pulp and paper, shipbuilding and sawmills. In addition, an important petroleum refinery and industries producing railway rolling-stock, cotton yarn and cloth, and coke and gas add to the diversification of industry in the province. The forests of *New Brunswick* give a leading place to pulp and paper and sawmilling industries in the province. Other important manufacturing and processing activities are based on fish and agricultural resources.

Considering the Atlantic Provinces as an economic unit, pulp and paper was the leading industry in 1956 with factory shipments valued at \$191,465,894. This was followed by fish processing with \$81,202,927, primary iron and steel \$51,321,212, sawmills \$44,251,499 and railway rolling-stock \$33,758,676. These five industries accounted for 49 p.c. of the total selling value of factory shipments of the region. Other industries with shipments valued at \$10,000,000 or more were, in order of selling value of factory shipments: petroleum products, sugar refining, butter and cheese, shipbuilding, bread and other bakery products, slaughtering and meat packing, sash, door and planing mills, miscellaneous food preparations, printing and publishing, prepared stock and poultry feeds, breweries, miscellaneous iron and steel products, and coke and gas products.

In the Atlantic Provinces the program of industrial development has been more selective than in some of the other provinces. Fish processing, new sawmills, increased pulp-making capacity and the manufacture of non-metallic building materials like cement and gypsum products have accounted for well over half of the industrial growth. There are, however, a few outstanding exceptions. Two sizable defence plants have been established in *Nova Scotia*, one to repair and overhaul naval aircraft and the other to build and repair radar and related electronic equipment. Considerable development has taken place in Newfoundland. Besides plants for the manufacture of cement and gypsum wallboard and plaster, factories for producing boots and shoes, birch veneer, leather goods, industrial machinery and a leather tannery were established, thus broadening the industrial base of the province. With these exceptions, most of the developments in the Atlantic Provinces have been either small and scattered or confined to the modernization and expansion of existing facilities.

Despite the rapid development in the Atlantic Provinces since 1949, manufacturing production did not quite keep pace with the development in the more industrialized provinces of Ontario, Quebec and British Columbia. This is indicated by a slight drop in the Atlantic Provinces' share of the Canadian total from 4.5 in 1949 to 3.8 in 1956.

Up to 1952 the increase in employment in the Atlantic Provinces was about the same as for the remainder of Canada. Between 1953 and 1955, however, employment in that region declined by 6.0 p.c. while for Canada as a whole the decline was only 2.2 p.c. and in 1956 employment in the Atlantic Provinces rose by 1.5 p.c. over 1955, while Canada as a whole increased 4.2 p.c. Increased employment since 1949 reported by Newfoundland, Prince Edward Island and Nova Scotia was partially offset by a drop of 3.8 p.c. in New Brunswick, resulting in a net increase of only 2.4 p.c. for the area as compared with an increase of 15.3 p.c. for Canada as a whole. For salaries and wages paid, the increase was 49.3 p.c. as compared with 76.2 p.c. for Canada, and for selling value of factory shipments the respective increases were 46.6 p.c. and 73.2 p.c.

Not all industries shared in the advance since 1949. Fish processing showed a loss of 8.4 p.c. in value of shipments, sawmills a drop of 4.9 p.c., and shipbuilding a drop of 4.2 p.c. Most of the leading industries with shipments of \$10,000,000 or more, however, reported increases. The greatest gain of 97.4 p.c. was reported by the railway rolling-stock industry, followed by primary iron and steel with 17.8 p.c. and pulp and paper with 7.5 p.c. A notable feature of the 1956 manufacturing operations in the Atlantic Provinces was the expansion in the petroleum products industry in Nova Scotia, with a value of shipments almost double that of the previous year.

3.—Statistics of the Leading Industries of the Atlantic Provinces, 1956

Industry	Estab- lish- ments	Em- ployees	Salaries and Wages	Cost at Plant of Materials Used	Value Added by Manufacture	Selling Value of Factory Shipments
	No.	No.	\$	\$	\$	\$
Newfoundland						
1 Pulp and paper ¹	2	3,369	16,434,551	28,030,105	35,444,029	68,085,288
2 Fish processing.....	44	2,838	4,710,364	10,146,784	8,294,199	18,279,005
3 Breweries.....	3	200	654,818	916,008	2,492,053	3,618,522
4 Sash, door and planing mills.....	25	273	727,223	2,144,379	1,154,613	3,344,673
5 Bread and other bakery products.....	14	285	748,366	1,840,282	1,370,857	3,296,717
6 Carbonated beverages.....	10	133	330,810	895,666	1,351,802	2,327,482
7 Sawmills.....	542	848	491,350	933,046	1,052,455	2,050,109 ²
8 Printing and publishing.....	6	270	855,912	428,501	1,577,876	2,035,272
9 Biscuits.....	3	155	309,540	635,519	605,176	1,247,118
10 Other leading industries ³	8	570	1,817,673	5,210,259	4,271,565	10,049,640
Totals, Leading Industries.....	657	8,946	27,080,607	51,180,549	57,614,625	114,331,826
Totals, All Industries.....	783	10,502	30,462,735	55,451,956	62,607,709	123,691,344
Prince Edward Island						
1 Butter and cheese.....	17	161	360,830	4,091,097	822,575	4,989,395
2 Fish processing.....	30	510	638,996	3,160,383	1,035,831	4,270,513
3 Feeds, stock and poultry, prepared.....	13	58	107,246	949,151	178,319	1,143,806
4 Fruit and vegetable preparations.....	10	119	119,116	700,039	268,880	1,049,581
5 Printing and publishing.....	3	156	357,890	152,860	574,215	743,722
6 Sawmills.....	61	112	103,016	239,520	259,285	510,451 ⁴
7 Other leading industries ⁵	4	289	847,526	7,455,299	1,855,753	9,492,390
Totals, Leading Industries.....	138	1,405	2,534,620	16,748,349	4,994,858	22,199,858
Totals, All Industries.....	192	1,775	3,233,404	17,806,842	6,161,628	24,497,245
Nova Scotia						
1 Primary iron and steel.....	3	4,366	16,706,991	25,989,767	23,646,154	51,321,212
2 Fish processing.....	140	3,938	7,372,778	28,374,456	11,977,297	40,787,255
3 Pulp and paper.....	4	1,238	4,661,463	8,433,403	12,042,521	22,022,222
4 Shipbuilding.....	18	2,907	9,267,326	8,162,706	12,355,945	20,867,905 ²
5 Sawmills.....	582	2,632	3,917,041	11,104,882	7,902,241	19,318,842 ²
6 Butter and cheese.....	23	733	1,879,373	7,905,114	3,351,023	11,623,772
7 Miscellaneous iron and steel.....	3	782	2,409,339	5,304,226	4,859,505	10,237,173
8 Sash, door and planing mills.....	64	835	1,895,972	5,576,942	2,745,888	8,421,869
9 Bread and other bakery products.....	81	867	1,910,406	4,233,215	3,728,778	8,294,678
10 Printing and publishing.....	26	827	2,878,389	1,417,619	5,459,029	6,968,622
11 Knitted goods, other than hosiery.....	3	826	1,543,504	3,389,719	2,734,189	6,092,763
12 Feeds, stock and poultry, prepared.....	16	102	212,306	3,665,239	857,756	4,548,566
13 Fruit and vegetable preparations.....	16	487	872,276	2,747,728	1,767,842	4,236,093
14 Carbonated beverages.....	29	280	705,784	1,348,092	2,567,754	4,063,592
15 Miscellaneous food preparations.....	11	207	406,694	2,409,425	1,488,744	3,942,349
16 Confectionery.....	5	902	1,556,083	2,826,005	963,991	3,893,136
17 Slaughtering and meat packing.....	5	62	162,728	2,035,000	713,138	2,768,715
18 Other leading industries ⁶	15	4,384	15,059,513	72,236,147	40,907,211	116,793,467
Totals, Leading Industries.....	1,044	26,375	73,417,966	197,159,685	140,069,006	346,202,231
Totals, All Industries.....	1,402	30,937	83,948,510	214,779,069	159,820,242	384,398,103

3.—Statistics of the Leading Industries of the Atlantic Provinces, 1956—concluded

Industry	Estab- lish- ments	Em- ployees	Salaries and Wages	Cost at Plant of Materials Used	Value Added by Manufacture	Selling Value of Factory Shipments
	No.	No.	\$	\$	\$	\$
New Brunswick						
1 Pulp and paper.....	7	4,322	18,591,704	48,791,503	45,745,661	101,358,384
2 Sawmills.....	366	2,763	4,845,384	12,740,895	9,347,727	22,372,097 ¹
3 Fish processing.....	146	2,531	3,320,057	11,591,936	6,485,643	17,866,154
4 Miscellaneous food preparations...	13	392	699,588	8,995,105	3,276,281	12,373,864
5 Slaughtering and meat packing...	3	338	1,394,005	8,016,644	1,678,633	9,869,890
6 Butter and cheese.....	29	438	985,035	7,094,372	2,140,149	9,824,557
7 Bread and other bakery products.....	59	901	1,988,690	4,578,373	3,869,001	8,103,409
8 Sash, door and planing mills.....	61	764	1,805,301	5,590,735	2,339,882	8,103,250
9 Feeds, stock and poultry, prepared	14	190	440,206	6,170,987	1,074,898	7,321,443
10 Heating and cooking apparatus.....	3	700	2,032,192	2,750,618	3,750,193	6,558,879
11 Printing and publishing.....	20	634	1,809,646	914,261	3,248,667	4,235,509
12 Fertilizers.....	3	125	402,338	3,023,879	786,954	4,042,169
13 Boxes and bags, paper.....	8	198	496,915	1,860,634	1,093,692	3,008,907
14 Carbonated beverages.....	24	204	534,289	908,754	1,625,676	2,655,221
15 Confectionery.....	6	327	634,159	1,136,384	1,092,374	2,299,303
16 Footwear, leather.....	3	294	594,831	1,070,943	1,033,405	2,106,249
17 Sheet metal products.....	5	103	207,689	1,277,402	797,326	2,094,918
18 Other leading industries ²	12	4,733	14,025,380	39,042,295	25,564,197	66,541,754
Totals, Leading Industries.....	782	19,957	54,808,413	165,555,720	114,980,359	291,255,957
Totals, All Industries.....	1,004	22,560	61,063,301	176,440,306	125,314,488	313,280,599

¹ Publication of these figures was authorized by the firms concerned.² Reported on a production basis.

³ Includes dairy products, n.e.s.; cement, hydraulic; gypsum products; miscellaneous food preparations; paints, varnishes and lacquers; and slaughtering and meat packing. ⁴ Includes bags, cotton and jute; fertilizers; and slaughtering and meat packing. ⁵ Includes breweries; cotton yarn and cloth; boxes and bags, paper; bridge and structural steel; wire and wire goods; aircraft and parts; railway rolling-stock; salt; coke and gas products; and petroleum products. ⁶ Includes biscuits; breweries; brass and copper; brooms, brushes and mops; cement, hydraulic; railway rolling-stock; synthetic textiles; shipbuilding; and sugar refining.

Subsection 2.—The Manufactures of Quebec

Quebec has long ranked as the second largest industrial province of Canada. The province experienced a great industrial expansion following World War II, an expansion not confined to existing industrial areas, but spreading to many towns and villages in the accessible areas of the province and into new areas in the hinterland. In 1956 its output of \$6,622,502,699 represented about 30 p.c. of Canada's total selling value of factory shipments.

Several important factors have contributed to the development of industry in Quebec. Its geographic situation is extremely favourable including as it does the great water highway of the St. Lawrence River with its excellent harbour at Montreal 800 miles inland. There is also an extensive road network linking the small rural areas to the larger industrial centres. Other significant factors include abundant natural resources in forests, water power, minerals, agricultural lands and, of even more importance, an industrious and stable population.

Quebec ranks first in available water power resources, having more than 40 p.c. of the total recorded for all Canada. Installations, approaching 8,500,000 h.p. at the end of 1956, represented more than 45 p.c. of the total for Canada.

The pulp and paper industry, with an output valued at \$617,986,499 in 1956, is Quebec's leading manufacture. The province is a principal world centre for the production of newsprint, having 55 major pulp and paper plants concentrated in the Trois Rivières and Shawinigan Falls districts, as well as along the Saguenay, Ottawa and St. Lawrence Rivers. The production of non-ferrous metals has expanded considerably during the past decade. The output of aluminum has also made impressive progress, reaching a record total of 620,321 tons in 1956. The major oil refinery district of the country has been developed in the Montreal area.

Quebec's industries are not as diversified as those of Ontario, although a number produce 50 p.c. or more of the Canadian total. Among the major industries, Quebec predominates in: tobacco products with 93.1 p.c. of the Canadian total; women's factory clothing 69.9 p.c.; cotton yarn and cloth 67.7 p.c.; men's factory clothing 56.2 p.c.; synthetic textiles and silk 51.8 p.c.; miscellaneous electrical apparatus and supplies 46.5 p.c.; non-ferrous metal smelting and refining 43.7 p.c.; pulp and paper 42.5 p.c.; railway rolling-stock 42.0 p.c.; and miscellaneous chemical products 40.3 p.c. Two industries in the medium-size classification also predominated in Quebec—leather footwear with 57.8 p.c. and medicinal and pharmaceutical preparations with 47.1 p.c. of Canadian production.

As in other provinces, the manufacturing industries of Quebec recovered in 1955 from the minor recession that occurred in 1954, and continued this recovery at an accelerated pace in 1956. All groups of the standard industrial classification reported an increase in the selling value of factory shipments. For the province as a whole the increase was 11.8 p.c. as compared with an increase of 10.9 p.c. for Canada. Employment in six of the nine groups was higher, the increase for the province being 3.9 p.c., and for Canada 4.2 p.c. Employment in the clothing group was unchanged, chemicals and allied products slightly lower, and the petroleum and coal products group reported a decline of 9.4 p.c. from the previous year.

4.—Statistics of the Leading Industries of Quebec, 1956

Industry	Estab- lish- ments	Em- ployees	Salaries and Wages	Cost at Plant of Materials Used	Value Added by Manufacture	Selling Value of Factory Shipments
	No.	No.	\$	\$	\$	\$
1 Pulp and paper.....	56	28,698	128,499,398	265,565,971	308,041,729	617,986,499
2 Non-ferrous metal smelting and refining.....	10	11,922	48,072,349	390,496,486	185,842,373	610,354,584 ¹
3 Petroleum products.....	8	2,803	13,632,244	272,981,751	150,408,254	438,753,511 ¹
4 Miscellaneous electrical apparatus and supplies.....	43	14,196	54,255,517	92,111,341	98,835,599	182,939,412
5 Slaughtering and meat packing.....	40	5,081	17,297,167	143,749,886	26,806,404	172,597,212
6 Clothing, women's factory.....	432	17,167	40,827,221	95,385,604	71,919,745	166,180,661
7 Cotton yarn and cloth.....	21	14,133	39,302,322	101,498,550	55,896,351	159,904,697
8 Tobacco, cigars and cigarettes.....	23	7,236	24,643,322	84,220,983	73,065,989	157,838,470
9 Clothing, men's factory.....	315	16,831	38,702,864	91,834,505	62,220,638	162,919,664
10 Railway rolling-stock.....	7	12,596	44,570,606	85,940,415	56,853,194	145,052,697 ¹
11 Aircraft and parts.....	24	12,643	52,036,156	43,123,506	86,936,528	131,405,109 ¹
12 Butter and cheese.....	614	5,058	12,558,257	102,762,408	25,254,862	131,122,282
13 Miscellaneous food preparations.....	83	2,675	8,312,142	71,622,744	33,371,072	105,457,911
14 Machinery, industrial.....	56	8,292	32,229,377	44,860,545	63,307,915	102,460,691
15 Furniture.....	627	11,468	30,520,718	50,434,014	50,669,003	101,061,088
16 Brass and copper products.....	40	2,952	11,261,272	74,305,581	23,627,385	97,915,790
17 Sawmills.....	1,499	9,571	17,949,787	58,708,315	36,997,202	96,712,360 ¹
18 Miscellaneous chemical products, n.e.s.....	82	6,607	23,036,743	54,424,831	34,036,143	91,189,367
19 Bread and other bakery products.....	934	10,464	24,849,451	42,834,161	40,800,264	86,893,668
20 Synthetic textiles and silk.....	32	10,178	29,729,378	40,963,469	38,708,115	83,436,694
21 Footwear, leather.....	152	12,069	26,425,031	39,324,670	39,370,851	78,987,408
22 Acids, alkalies and salts.....	15	3,835	17,219,123	37,988,226	34,449,680	77,001,898
23 Boxes and bags, paper.....	64	5,158	14,690,309	48,431,711	27,929,591	76,190,773
24 Feeds, stock and poultry, prepared	296	1,988	4,828,911	58,015,293	13,799,030	72,538,441
25 Primary iron and steel.....	15	4,273	16,938,168	25,111,454	43,405,627	71,614,798
26 Printing and publishing.....	78	6,833	25,820,190	21,136,278	49,553,185	71,294,636
27 Sheet metal products.....	88	4,996	17,942,944	35,322,914	34,706,836	69,736,517
28 Rubber goods, including footwear	35	6,877	20,706,605	28,771,073	37,322,772	65,052,656
29 Bridge and structural steel work.....	14	4,564	18,991,443	36,252,157	27,868,150	64,717,867 ¹
30 Printing and bookbinding.....	612	7,586	24,234,007	22,629,635	39,629,892	62,704,470
31 Breweries.....	5	2,669	11,365,588	15,944,804	47,322,916	62,067,744
32 Shipbuilding and repairs.....	11	7,444	26,818,703	25,575,532	35,180,101	61,427,966 ¹
33 Sash, door and planing mills.....	778	5,803	13,642,454	35,974,546	24,830,713	61,033,303
34 Medicinal and pharmaceutical pre- parations.....	9	3,779	12,999,651	18,756,187	38,143,691	57,691,174
35 Distilled liquors.....	82	2,408	8,919,672	18,622,636	35,901,664	54,813,918
36 Telecommunication equipment.....	26	6,661	22,423,306	27,265,819	27,039,512	53,023,760
37 Wire and wire goods.....	37	3,150	12,316,167	31,032,989	21,758,396	52,288,031

¹ Reported on a production basis.

4.—Statistics of the Leading Industries of Quebec, 1956—concluded

	Industry	Estab- lish- ments	Em- ployees	Salaries and Wages	Cost at Plant of Materials Used	Value Added by Manufacture	Selling Value of Factory Shipments
		No.	No.	\$	\$	\$	\$
38	Carbonated beverages.....	185	2,827	8,281,387	14,870,549	33,114,192	49,064,509
39	Castings, iron.....	53	4,153	14,733,941	23,337,525	25,188,283	47,384,025
40	Concrete products.....	200	3,206	9,812,483	23,375,029	22,291,007	46,895,724
Totals, Leading Industries¹..		7,710	310,850	1,020,396,374	2,795,614,093	2,182,504,854	5,087,711,385
Totals, All Industries.....		12,112	446,137	1,396,414,564	3,605,521,666	2,888,148,758	6,622,502,699

¹ Sugar refining is also a leading industry but statistics are confidential.

Subsection 3.—The Manufactures of Ontario

Ontario, one of the world's major industrial areas, accounts for approximately half of Canada's manufacturing production. Here the proximity of raw materials, cheap hydro-electric power, and a strategic location in relation to export markets, not only on this Continent but overseas, have been the decisive factors of development. Most of the manufactures and most of the population are located in the southern area of the province, which has the inestimable advantage of bordering on the St. Lawrence-Great Lakes waterway system, giving access westward to the heart of the Continent and eastward to the shipping routes of the world. Furthermore, this same waterway is also the source of most of Ontario's developed hydro-electric power. Many new industrial areas are being created as new industries and branch plants of established industries are increasingly being located in the smaller towns.

Despite the great industrial progress made by other provinces, Ontario continues to maintain its predominance and in 1956 produced 49 p.c. of the nation's manufactured goods. Steel ingot capacity is increasing. Huge investments have gone into the construction of plants in Sarnia for a whole group of new products based on Alberta oil flowing through the interprovincial pipeline from Edmonton. Significant developments have taken place in synthetic rubber, synthetic textiles, and industrial and consumer chemicals, and plants for their processing have been built in the vicinity of Sarnia and along the lower reaches of the St. Lawrence River between Cornwall and Kingston. Ontario has continued to gain in such traditional lines as motor vehicles, industrial and farm machinery, and the manufacture of household equipment, business and office machinery, and electrical apparatus and supplies. The province has the greatest diversification of manufacturing production in Canada. Certain industries, such as the manufacture of motor vehicles and their parts, heavy electrical machinery, agricultural implements, machine tools, starch and glucose, bicycles, and the processing of raw tobacco are carried on practically in this province alone. Of the forty leading industries in Canada in 1956, a substantial number were dominated by Ontario's share of the total production. These industries, with the percentage which the production of each bears to that of the 1956 Canada totals are: motor vehicles 98.8 p.c., motor vehicle parts 95.4 p.c., heavy electrical machinery 89.7 p.c., rubber goods 81.5 p.c., primary iron and steel 78.1 p.c., telecommunication equipment 76.7 p.c., iron castings 71.9 p.c., fruit and vegetable preparations 67.4 p.c., sheet metal products 59.7 p.c., wire and wire goods 58.4 p.c., aircraft and parts 58.1 p.c., industrial machinery 57.4 p.c., printing and bookbinding 57.3 p.c., brass and copper products 55.1 p.c., miscellaneous chemical products 54.6 p.c., acids, alkalies and salts 53.0 p.c., paper boxes and bags 52.0 p.c., and miscellaneous electrical apparatus 50.6 p.c.

There are also a number of medium-sized industries with a total Canadian production of over \$100,000,000 in which Ontario dominated: agricultural implements with 90.5 p.c., soaps and washing compounds 88.5 p.c., household and office machinery 80.0 p.c., refrigerators, vacuum cleaners, etc., 79.6 p.c., hardware, tools and cutlery 72.8 p.c., heating and cooking apparatus 68.7 p.c., and confectionery 57.2 p.c.

The manufacturing industries of Ontario produced the highest selling value of factory shipments on record in 1956, amounting to \$10,655,098,620, an increase of 10.8 p.c. over the previous year. Accompanying this increase in shipments was an increase of 4.5 p.c. in the number of persons employed which totalled 641,190 in 1956.

5.—Statistics of the Leading Industries of Ontario, 1956

Industry	Estab-lish-ments	Em-ployees	Salaries and Wages	Cost at Plant of Materials Used	Value Added by Manufacture	Selling Value of Factory Shipments
	No.	No.	\$	\$	\$	\$
1 Motor vehicles.....	9	34,239	146,427,948	691,146,202	293,018,027	976,395,839
2 Non-ferrous metal smelting and refining.....	9	10,985	47,779,018	300,682,938	233,785,554	554,055,630 ¹
3 Primary iron and steel.....	18	25,654	122,151,730	239,452,056	271,173,067	531,684,074
4 Pulp and paper.....	41	20,316	91,289,800	188,607,881	227,429,017	441,628,702
5 Petroleum products.....	13	5,480	26,206,838	214,388,049	130,759,078	357,663,026 ¹
6 Slaughtering and meat packing.....	55	9,050	34,674,321	259,163,528	71,161,876	332,270,861
7 Motor vehicle parts.....	116	20,096	77,735,398	170,269,794	146,647,126	314,359,075
8 Rubber goods, including footwear.....	48	16,191	61,228,450	131,739,169	160,856,206	289,917,252
9 Machinery, heavy electrical.....	53	21,524	88,050,963	102,757,112	149,083,838	234,826,366
10 Aircraft and parts.....	24	19,868	83,964,069	90,764,813	112,784,782	206,140,322 ¹
11 Miscellaneous electrical apparatus and supplies.....	99	11,846	43,792,121	105,982,193	97,081,939	199,296,354
12 Machinery, industrial.....	199	14,884	58,168,311	83,573,849	112,795,141	189,129,281
13 Telecommunication equipment.....	87	14,141	48,068,638	106,947,987	89,184,545	187,706,572
14 Sheet metal products.....	96	11,914	45,269,455	97,323,294	80,644,750	176,746,722
15 Castings, iron.....	192	11,238	44,811,331	90,009,054	85,264,991	175,425,420
16 Fruit and vegetable preparations.....	196	10,518	27,019,988	98,383,729	68,127,594	168,448,987
17 Butter and cheese.....	435	7,371	23,289,441	108,385,356	37,837,876	149,641,307
18 Printing and publishing.....	292	14,455	57,514,583	41,488,660	105,944,540	148,546,386
19 Furniture.....	750	16,071	48,514,237	71,754,730	75,818,420	147,883,962
20 Brass and copper products.....	87	5,368	20,575,710	92,894,966	40,439,412	134,380,898
21 Miscellaneous food preparations.....	110	4,598	15,541,193	85,865,402	46,423,486	133,449,970
22 Bread and other bakery products.....	849	15,000	41,769,848	60,786,551	63,282,436	128,404,739
23 Printing and bookbinding.....	787	13,319	45,417,696	48,260,677	78,539,003	127,157,891
24 Boxes and bags, paper.....	106	7,988	26,542,918	76,611,310	48,720,201	125,459,373
25 Miscellaneous chemical products, n.e.s.....	128	5,110	20,454,971	56,821,390	61,057,157	123,684,015
26 Refrigerators, vacuum cleaners and appliances.....	56	7,543	27,816,766	59,177,399	65,385,621	118,501,819
27 Railway rolling-stock.....	12	6,268	24,043,600	72,620,287	42,007,232	115,658,339 ¹
28 Hardware, tools and cutlery.....	284	10,939	39,373,343	44,161,133	71,854,079	115,247,984
29 Agricultural implements.....	28	8,861	33,686,124	58,215,977	46,659,425	111,059,789
30 Miscellaneous paper goods, n.e.s.....	109	6,858	22,987,164	61,613,827	44,826,387	107,441,315
31 Machinery, household, office and store.....	46	6,623	24,009,686	51,697,020	52,849,315	102,657,248
32 Acids, alkalis and salts.....	25	4,701	20,700,570	42,729,113	52,623,051	102,509,807
33 Feeds, stock and poultry, prepared.....	342	2,998	8,093,784	73,562,280	22,982,500	97,808,676
34 Soaps, washing compounds and cleaning preparations.....	68	3,031	12,535,500	40,875,170	55,754,121	96,798,597
35 Wire and wire goods.....	73	6,153	24,354,384	50,420,663	44,447,045	93,668,886
36 Flour mills.....	44	1,792	6,054,182	74,263,823	12,604,808	87,497,208
37 Breweries.....	21	3,342	14,933,441	22,369,678	62,808,904	86,719,251
38 Heating and cooking apparatus.....	60	5,976	22,271,554	47,007,139	39,807,787	84,917,640
39 Clothing, men's factory.....	143	10,429	26,135,167	40,860,104	39,900,041	80,155,925
40 Bridge and structural steel work.....	25	5,253	22,847,100	33,935,874	40,935,569	75,675,460 ¹
Totals, Leading Industries...	6,133	437,991	1,676,101,331	4,387,620,182	3,533,306,927	8,030,710,968
Totals, All Industries.....	13,215	641,190	2,310,634,396	5,683,753,088	4,868,570,251	10,655,098,620

¹ Reported on a production basis.

Subsection 4.—The Manufactures of the Prairie Provinces

In the Prairie Provinces the leading industries have traditionally been those based on agricultural resources—grain-growing, cattle-raising and dairying areas. But recently slaughtering and meat packing has emerged as the major industry followed very closely by petroleum products. The latter industry has made tremendous strides in the Prairie Provinces since 1949 and now ranks highest in terms of selling value of factory shipments in both Alberta and Saskatchewan and second in Manitoba. It has increased its proportion of the total manufacturing production of the Prairie Provinces from 8.5 p.c. in 1949 to

16.5 p.c. in 1956. Next in importance generally are flour mills and dairy products followed by industries providing for the more essential needs of the resident population, such as the baking of bread, printing and publishing, etc. In Manitoba, the early commercial centre of the Prairie Provinces, water power, forest and, more recently, mineral resources have given rise to a diversification of industrial production. The extensive railway services require large shops for the maintenance of rolling-stock, especially in the Winnipeg area. In Saskatchewan, while the main economic role continues to be played by agriculture, the production of petroleum products has taken first place in selling value of factory shipments.

The Prairie Provinces are not so well endowed with water power resources as the more highly industrialized provinces of Quebec, Ontario and British Columbia, but the recent development of oil and gas will permit the economical generation of all thermal power necessary for industrial development in the mid-western region.

In the Prairie Provinces the nature of development varies from one province to another. Alberta, with its expanding oil and gas industries, has moved to the forefront, especially since 1950. Chemicals, particularly petrochemicals, have made striking gains, and now embrace various rayon intermediates and polythene plastics, as well as fertilizers and the manufacture of other new inorganic products like caustic soda and chlorine. Agriculture-based products still rank high in the province, as do structural materials such as steel, concrete products and hydraulic cement. Sizable gains have also been made by the expansion of food-processing plants.

Manitoba, next to Alberta in value of shipments, experienced great development in manufacturing production during the War and postwar periods although, percentage-wise, it did not keep pace with the other two Prairie Provinces. The change has been largely one of emphasis rather than magnitude—that emphasis moving from production of food and clothing to production of goods of mineral origin such as iron and steel, non-metallic mineral products, and products of petroleum and coal.

Developments in Saskatchewan have continued along more or less traditional lines. The largest gains in shipments have been recorded by the food processing industries and a substantial increase has also been shown by the building materials group, which includes non-metallic mineral products and lumber. However, the largest single gain in employment has been in the refining of oil for local use.

Considering the Prairie Provinces as an economic unit, 4,303 manufacturing establishments reporting in 1956 furnished employment to 91,149 persons who received \$290,384,459 in salaries and wages. They shipped goods valued at the factory at \$1,648,781,413 and spent \$956,034,201 for materials.

6.—Statistics of the Leading Industries of the Prairie Provinces, 1956

Industry	Estab-lish-ments	Em-ploy-ees	Salaries and Wages	Cost at Plant of Materials Used	Value Added by Manufacture	Selling Value of Factory Shipments
Manitoba	No.	No.	\$	\$	\$	\$
1 Slaughtering and meat packing . . .	13	3,196	11,834,164	76,670,429	24,416,035	101,465,534
2 Petroleum products	5	512	2,544,650	32,193,237	19,805,919	53,941,998 ¹
3 Railway rolling-stock	4	4,956	17,396,498	17,285,936	15,871,178	33,661,632
4 Butter and cheese	69	1,273	3,647,253	21,071,352	6,438,077	28,014,515
5 Flour mills	7	579	1,669,470	20,906,966	4,129,988	25,141,602
6 Clothing, men's factory	53	2,809	6,173,404	13,690,442	5,176,756	23,361,450
7 Miscellaneous food preparations . . .	23	564	1,843,288	14,460,279	9,750,837	19,889,457
8 Furniture	126	1,787	5,098,222	10,573,864	7,924,888	18,832,880
9 Printing and publishing	78	1,951	6,040,072	5,102,583	11,962,789	17,154,605
10 Pulp and paper	3	582	2,597,630	5,725,724	9,734,993	16,696,382
11 Bread and other bakery products . .	144	1,785	4,873,406	7,009,939	7,776,206	15,357,512
12 Clothing, women's factory	24	1,521	3,883,420	7,232,409	5,343,306	12,597,053
13 Sheet metal products	26	1,026	3,339,609	7,123,296	5,759,599	12,560,115
14 Breweries	6	598	2,482,849	2,269,158	9,228,241	11,617,482

¹ Reported on a production basis.

6.—Statistics of the Leading Industries of the Prairie Provinces, 1956—concluded

Industry	Estab- lish- ments	Em- ployees	Salaries and Wages	Cost at Plant of Materials Used	Value Added by Manufacture	Selling Value of Factory Shipments
	No.	No.	\$	\$	\$	\$
Manitoba—concluded						
15 Printing and bookbinding.....	82	1,249	4,009,438	3,352,189	6,804,511	10,250,733
16 Boxes and bags, paper.....	10	603	1,943,546	5,832,725	3,338,683	9,084,247
17 Feeds, stock and poultry, prepared	36	244	655,020	6,015,539	1,764,985	7,845,762
18 Agricultural implements.....	15	490	1,492,451	4,972,987	2,515,440	7,508,539
19 Miscellaneous iron and steel prod- ucts.....	11	682	2,471,468	4,158,690	4,114,227	7,435,050
20 Bags, cotton and jute.....	3	207	539,739	5,245,724	1,113,084	6,337,598
21 Paints, varnishes and lacquers....	5	251	708,784	3,115,681	2,624,393	5,716,591
22 Carbonated beverages.....	22	373	1,115,368	2,085,750	3,441,450	5,673,275
23 Concrete products.....	11	310	954,984	3,175,106	2,009,391	5,194,459
24 Other leading industries ²	10	3,866	14,591,115	27,165,377	41,545,401	72,804,795
Totals, Leading Industries.....	786	31,414	101,905,857	306,435,282	212,590,377	528,143,246
Totals, All Industries.....	1,534	42,821	133,505,971	367,024,766	270,017,554	647,359,185
Saskatchewan						
1 Petroleum products.....	10	1,218	5,330,747	54,342,324	28,408,987	86,090,448 ¹
2 Flour mills.....	9	752	2,543,293	35,669,638	6,119,615	42,062,532
3 Slaughtering and meat packing...	8	1,160	4,138,668	22,192,975	8,982,156	31,334,254
4 Butter and cheese.....	57	1,266	3,543,465	20,625,949	7,035,601	28,017,342
5 Bread and other bakery products.	98	1,151	3,137,686	4,692,918	5,492,188	10,060,524
6 Breweries.....	5	345	1,402,380	2,036,931	7,304,965	9,576,313
7 Printing and publishing.....	96	1,175	3,488,611	2,279,660	6,394,607	8,824,671
8 Sash, door and planing mills.....	33	417	1,211,688	2,227,843	2,060,403	4,290,522
9 Carbonated beverages.....	24	238	660,060	1,499,054	2,333,238	3,992,141
10 Sheet metal products.....	6	267	815,412	2,788,219	1,149,689	3,918,958
11 Sawmills.....	164	430	596,450	1,196,787	1,252,213	2,519,096 ¹
12 Concrete products.....	19	205	640,901	1,318,687	1,165,659	2,350,174
Totals, Leading Industries³...	529	8,624	27,509,361	150,670,935	77,699,521	233,352,975
Totals, All Industries.....	798	11,536	36,683,383	176,871,188	113,627,642	298,203,459
Alberta						
1 Petroleum products.....	17	2,041	9,280,495	76,445,714	51,877,453	132,334,611 ¹
2 Slaughtering and meat packing...	15	3,961	14,182,645	105,710,535	26,383,993	132,087,162
3 Butter and cheese.....	98	1,901	5,452,281	28,709,749	8,754,907	38,224,428
4 Flour mills.....	11	720	2,080,789	26,365,279	6,078,967	32,368,485
5 Sash, door and planing mills.....	112	1,332	5,244,067	12,977,672	8,047,384	21,218,632
6 Sawmills.....	603	2,641	4,958,395	9,516,569	10,469,675	20,503,303 ¹
7 Bread and other bakery products.	144	1,881	5,303,927	7,383,661	9,385,836	17,255,493
8 Breweries.....	6	547	2,065,007	3,285,162	11,880,754	15,449,414
9 Bridge and structural steel work...	5	951	3,717,179	8,710,245	6,564,428	15,339,895 ¹
10 Printing and publishing.....	79	1,398	4,428,370	3,617,345	10,567,876	14,275,493
11 Concrete products.....	35	754	2,592,014	7,649,347	5,829,374	13,854,482
12 Acids, alkalies and salts.....	3	409	2,159,755	2,881,619	7,350,508	10,286,183
13 Cement, hydraulic.....	3	440	1,685,190	1,680,734	6,799,124	9,715,485 ¹
14 Miscellaneous food preparations...	14	266	784,101	6,121,753	2,655,399	9,100,670
15 Feeds, stock and poultry, prepared	47	272	752,214	6,501,688	2,097,839	8,622,220
16 Machine shops.....	70	889	3,365,519	3,085,070	5,334,916	8,534,374
17 Sheet metal products.....	18	568	1,694,120	5,067,856	3,741,842	8,363,548
18 Clothing, men's factory.....	10	803	1,903,758	4,421,535	3,554,775	7,742,121
19 Printing and bookbinding.....	82	940	3,076,336	2,194,359	4,601,936	6,864,197
20 Furniture.....	81	687	1,920,022	3,380,028	3,242,737	6,644,039
21 Boxes and bags, paper.....	6	342	1,229,932	3,864,969	2,562,001	6,415,870
22 Boilers, tanks and platemwork....	10	340	1,264,092	3,903,373	2,868,696	6,295,085
23 Other leading industries ⁴	10	3,942	15,045,089	32,894,207	31,190,626	62,234,867
Totals, Leading Industries.....	1,479	28,525	94,185,297	366,365,469	231,841,046	603,690,057
Totals, All Industries.....	1,971	36,792	120,195,105	412,138,247	285,830,811	703,188,739

¹ Reported on a production basis.² Includes aircraft and parts; bridge and structural steel work; cement, hydraulic; gypsum products; non-ferrous metal smelting and refining; primary iron and steel; and sugar refining.³ Non-ferrous metal smelting and refining is also a leading industry. Statistics, however, are confidential since there are fewer than three firms reporting.⁴ Includes fertilizers; non-ferrous metal smelting and refining; primary plastics; railway rolling-stock; and sugar refining.

Subsection 5.—The Manufactures of British Columbia

British Columbia, with factory shipments totalling \$1,859,368,466 in 1956, ranked third among the provinces in manufacturing production. This province increased its share of the total Canadian output from 7.1 p.c. in 1939 to 8.6 p.c. in 1956.

Forest resources, fisheries, minerals and electric power have given a broad base and wide diversification to its industrial development. The sawmilling industry ranked first in 1956 and pulp and paper second. British Columbia holds the dominant position among the provinces in the production of wood products, its output making up 42 p.c. of the Canadian total. Third in importance was the petroleum products industry which moved up from seventh place in 1953 as a result of the completion of the Trans Mountain oil pipeline. The province also accounted for approximately 48 p.c. of the output of the nation's fish processing industry in 1956 and is mainly responsible for Canada's position as the major fish exporting nation in the world.

A feature of recent progress has been that new developments are taking place in areas far removed from accepted industrial centres. A new railway cutting diagonally across the province from south to north has opened up the formerly locked interior of the province. Factories and plants in remote sections are drawing greater value in employment and dollars from natural resources. The growth of the province industrially may be indicated by the increase in employment, two and one-half times the prewar figure. In dollar terms, gross value of manufacturing has increased 650 p.c. since 1939. The consumption of 6,500,000,000 kwh. of electric power by manufacturers during 1956 marked a steady upward climb of 200 p.c. in the past decade.

British Columbia ranks second among the provinces in available water power resources and its hydraulic development, which at the end of 1956 totalled 2,566,460 h.p. out of a Canadian total of 18,403,048 h.p., was exceeded only by Quebec and Ontario.

The manufacturing industries of British Columbia expanded during 1954, at a time when the remainder of Canada experienced a minor recession, and continued to expand during 1956. In the latter year the number of employees was 15.7 p.c. higher than in 1953 and the value of factory shipments was 36.0 p.c. higher, compared with 1.9 p.c. and 21.7 p.c. respectively for Canada as a whole.

7.—Statistics of the Leading Industries of British Columbia, 1956

Industry	Estab- lish- ments	Em- ployees	Salaries and Wages	Cost at Plant of Materials Used	Value Added by Manufacture	Selling Value of Factory Shipments
	No.	No.	\$	\$	\$	\$
1 Sawmills.....	1,746	30,295	102,513,109	213,771,245	178,630,187	397,934,856 ¹
2 Pulp and paper.....	12	7,386	35,248,286	79,557,505	97,235,818	184,526,395
3 Petroleum products.....	5	1,307	6,507,873	72,415,680	47,475,305	123,235,472 ¹
4 Veneer and plywood.....	17	6,050	22,301,157	45,810,977	42,792,191	87,532,258
5 Fish processing.....	55	3,334	10,171,347	46,879,193	42,912,348	81,979,253
6 Sash, door and planing mills.....	221	4,002	13,248,196	52,398,688	23,487,412	76,412,294
7 Slaughtering and meat packing.....	12	1,555	6,003,952	44,503,876	9,559,586	54,667,475
8 Miscellaneous food preparations.....	42	875	2,560,020	37,974,817	9,487,612	47,398,782
9 Shipbuilding.....	22	4,643	19,752,840	11,633,194	30,183,071	42,290,932 ¹
10 Fertilizers.....	5	1,179	5,217,234	12,917,576	18,822,008	34,596,322
11 Printing and publishing.....	88	3,197	12,779,420	7,438,267	23,523,901	31,174,985
12 Butter and cheese.....	27	1,934	6,713,947	19,317,242	10,170,544	29,997,664
13 Fruit and vegetable preparations.....	66	2,249	5,087,999	17,437,498	9,453,243	28,452,269
14 Bridge and structural steel.....	4	1,784	8,154,984	15,310,939	12,760,455	28,311,242 ¹
15 Bread and other bakery products.....	290	3,034	9,019,406	12,396,058	14,324,066	27,573,172
16 Machinery, industrial.....	41	2,190	8,380,127	9,007,605	17,333,371	25,735,329
17 Sheet metal products.....	33	1,033	4,210,855	13,283,771	8,260,913	21,525,524
18 Furniture.....	225	2,196	6,418,602	10,686,850	9,301,588	20,350,518
19 Boxes and bags, paper.....	17	1,056	3,531,168	12,238,854	6,439,427	18,829,597
20 Feeds, stock and poultry, prepared.....	40	697	2,271,713	14,576,674	3,950,157	18,769,820
21 Breweries.....	9	639	2,598,540	4,044,499	13,170,487	17,845,474
Totals, Leading Industries¹.....	2,977	80,635	292,690,805	753,601,008	629,279,690	1,399,139,433
Totals, All Industries.....	4,393	108,595	393,869,388	1,007,832,346	824,249,273	1,859,368,466

¹ Reported on a production basis.² Non-ferrous metal smelting and refining is also a leading industry; statistics, however, are confidential since there are fewer than three firms reporting.

Section 2.—Manufacturing Industries in Urban Centres

The prosperity of most of the cities and towns of Canada, especially in Eastern Canada, is intimately connected with their manufacturing industries, which provide employment for a large proportion of the labour forces.

Table 8 indicates the extent to which the manufacturing industries are concentrated in urban centres and shows, by province, the proportion of the selling value of factory shipments contributed by cities and towns having shipments of over \$1,000,000 each. In the more highly industrialized provinces of Ontario and Quebec such cities and towns accounted for 78 p.c. and 94 p.c., respectively, of the total manufactures of those provinces in 1956, while in the Atlantic Provinces and British Columbia, where sawmilling, fish packing and dairying are leading industries, the proportions were 69 p.c. and 49 p.c., respectively. In the Prairie Provinces, manufacturing is confined largely to a few urban centres.

A noticeable trend towards the decentralization of industry is apparent in all provinces but the most striking change has been shown by Ontario where there has been a recent tendency to establish new industry in smaller urban centres and where many new one-industry areas have been opened up. For Canada as a whole the percentage of manufactures accounted for by urban centres having shipments of over \$1,000,000 was 85.8 in 1954 but dropped to 79.8 by 1956.

8.—Urban Centres, each with Selling Value of Factory Shipments of Over \$1,000,000, Number of Establishments and Total Shipments in these Centres as a Percentage of the Provincial Total, by Province, 1956, and Totals for Canada, 1954-56.

NOTE.—Statistics published in this table are sometimes higher than the figures published in Table 11, pp. 671-673, since the table below includes statistics of towns with fewer than three establishments and production of over \$1,000,000 each. It is not possible to publish this information in Table 11 without disclosing the operations of individual establishments.

Province or Territory	Urban Centres with Value of Factory Shipments of over \$1,000,000 each	Establishments Reporting in Urban Centres with Value of Factory Shipments of over \$1,000,000	Selling Value of Factory Shipments of Urban Centres having \$1,000,000 or over	Selling Value of Factory Shipments of each Province	Selling Value of Factory Shipments of Urban Centres as a Percentage of Shipments in each Province
	No.	No.	\$	\$	
Newfoundland.....	6	146	80,506,515	123,691,344	65.1
Prince Edward Island.....	3	63	17,209,481	24,497,245	70.3
Nova Scotia.....	26	507	247,045,562	384,398,103	64.3
New Brunswick.....	17	335	236,598,702	313,280,599	75.5
Quebec.....	187	8,197	6,238,944,938	6,622,502,699	94.2
Ontario.....	187	9,267	8,283,074,138	10,655,098,620	77.7
Manitoba.....	13	1,134	546,603,403	647,389,185	84.4
Saskatchewan.....	9	403	235,731,004	298,203,489	79.1
Alberta.....	16	936	471,661,108	703,188,739	67.1
British Columbia.....	34	2,301	904,675,269	1,859,368,466	48.7
Yukon and Northwest Territories..	—	—	—	5,130,497	—
Canada, 1956.....	498	23,289	17,262,050,120	21,636,748,966	79.8
1955.....	482	23,618	15,704,708,812	19,513,933,811	80.5
1954.....	472	23,869	15,045,342,071	17,554,527,504	85.8

9.—Principal Statistics of the Manufacturing Industries of Six of the Leading Manufacturing Cities, Selected Years, 1939-56

City and Year	Estab- lish- ments	Em- ployees	Salaries and Wages	Cost of Fuel and Electricity	Cost of Materials	Gross Value of Products ¹
	No.	No.	\$	\$	\$	\$
Montreal, Que. 1939	2,501	105,315	114,602,118	7,667,848	254,188,246	483,246,583
1946	3,785	173,507	201,381,617	14,740,538	602,687,823	1,147,945,303
1949	4,136	184,779	399,943,526	16,487,474	847,444,669	1,596,713,694
1953	4,398	193,129	544,284,191	18,428,249	1,067,911,378	2,042,662,785
1954	4,418	184,684	539,119,575	19,030,786	1,050,160,663	1,987,217,589
1955	4,379	176,998	529,339,811	19,553,134	1,021,717,306	1,963,367,235
1956	4,289	182,759	582,256,675	22,354,978	1,175,253,762	2,207,686,246
Toronto, Ont. 1939	2,885	98,702	122,553,435	7,306,351	240,532,281	482,532,331
1946	3,632	145,556	247,298,288	12,238,707	549,256,912	1,036,939,790
1949	4,005	158,562	368,510,524	17,003,151	837,148,440	1,579,186,450
1953	3,781	154,251	478,086,271	18,968,416	980,873,073	1,875,747,249
1954	3,728	145,792	470,046,860	19,883,670	945,614,031	1,810,860,959
1955	3,497	134,235	448,775,761	18,788,747	916,493,539	1,732,099,123
1956	3,411	133,758	470,860,187	19,997,349	962,271,402	1,797,706,145
Hamilton, Ont. 1939	461	31,512	39,563,423	5,267,577	70,829,034	152,746,340
1946	501	45,951	80,959,432	10,434,888	150,977,835	308,083,098
1949	546	54,665	137,641,333	17,728,214	285,180,403	563,982,920
1953	566	60,451	201,515,979	22,408,131	385,515,852	824,407,315
1954	580	54,199	189,099,943	20,470,777	341,555,746	752,353,730
1955	585	55,202	200,311,361	24,807,502	395,047,070	844,835,085
1956	585	58,742	232,166,085	28,649,240	498,410,570	987,728,987
Windsor, Ont. 1939	222	17,729	25,938,890	1,673,417	63,907,106	122,474,320
1946	256	30,889	60,315,436	3,748,979	138,788,813	244,925,148
1949	283	34,591	94,304,627	5,373,123	271,392,923	494,162,203
1953	338	37,514	140,481,193	7,559,592	402,209,586	682,273,319
1954	353	30,210	112,816,841	5,718,287	263,143,564	474,634,211
1955	334	25,654	101,810,378	4,975,650	186,275,443	374,512,418
1956	336	24,091	96,798,387	5,453,651	186,300,126	369,790,090
Winnipeg, Man. 1939	648	17,571	20,717,273	1,491,823	44,873,043	81,024,272
1946	756	26,730	42,354,650	2,625,075	121,531,306	206,381,007
1949	860	28,687	58,604,162	3,166,077	143,827,270	255,006,806
1953	860	28,230	76,008,218	3,266,587	156,860,845	300,186,774
1954	864	26,887	74,628,563	3,503,403	150,352,336	288,602,394
1955	873	26,392	75,281,647	3,541,450	152,575,494	291,084,611
1956	869	26,629	80,891,909	3,669,114	163,808,668	309,520,043
Vancouver, B.C. 1939	829	17,957	22,382,192	1,397,159	56,555,511	101,267,243
1946	1,071	31,408	55,960,984	3,075,458	138,045,068	270,165,166
1949	1,225	33,536	78,793,345	4,392,716	204,642,985	358,620,526
1953	1,316	33,822	108,896,725	5,448,266	255,906,780	448,591,543
1954	1,335	33,916	114,114,199	6,104,757	273,058,336	486,913,181
1955	1,330	34,683	120,488,180	5,757,268	276,666,483	489,181,449
1956	1,299	36,052	131,540,861	6,326,318	299,290,344	534,658,163

¹ Net value is derived from gross value by deducting cost of materials, fuel and electricity. In 1952 gross value of products was replaced by selling value of factory shipments; see text on p. 626.

10.—Principal Statistics of the Manufacturing Industries in the Six Leading Metropolitan Areas, 1955 and 1956

Year and Metropolitan Area	Estab- lish- ments	Em- ployees	Salaries and Wages	Cost of Fuel and Electricity	Cost at Plant of Materials Used	Selling Value of Factory Shipments
1955	No.	No.	\$	\$	\$	\$
Montreal	5,147	240,288	750,385,954	47,051,284	1,808,114,819	3,331,614,743
Toronto	4,685	200,352	679,096,497	30,413,613	1,382,513,942	2,716,050,767
Hamilton	700	58,337	209,520,995	25,540,191	415,146,966	882,681,084
Vancouver	1,762	53,112	185,614,937	10,983,013	458,559,366	830,019,379
Windsor	387	36,528	144,637,822	7,787,681	338,435,101	617,299,358
Winnipeg	1,038	35,898	106,439,189	8,035,778	286,929,227	497,264,934
1956						
Montreal	5,074	249,964	827,703,886	56,240,720	2,113,216,117	3,786,635,501
Toronto	4,704	207,860	743,830,124	33,441,464	1,528,297,518	2,924,420,939
Hamilton	707	62,318	243,291,570	29,540,671	520,793,427	1,029,717,603
Vancouver	1,768	56,253	206,967,222	11,876,376	509,961,072	918,584,332
Windsor	395	35,440	141,559,724	8,682,445	329,719,889	613,420,207
Winnipeg	1,061	37,567	117,477,718	8,833,185	303,835,200	525,212,786

11.—Statistics of Manufactures of Municipalities, each with Selling Value of Factory Shipments of \$5,000,000 or Over and with Three or More Establishments, 1956

NOTE.—Statistics for urban centres with three or more establishments cannot be published when one establishment has 75 p.c. or two establishments 90 p.c. of the total value of shipments.

Province and Municipality	Estab-lish-ments	Em-ployees	Salaries and Wages	Cost of Fuel and Electricity	Cost at Plant of Materials Used	Selling Value of Factory Shipments
	No.	No.	\$	\$	\$	\$
Newfoundland—						
St. John's.....	102	2,326	6,212,498	571,287	12,760,402	26,539,993
Prince Edward Island—						
Charlottetown.....	35	634	1,567,124	171,160	7,167,094	10,519,422
Nova Scotia—						
Amherst.....	23	1,211	3,532,695	311,589	5,701,688	11,760,394
Halifax.....	146	6,471	18,378,785	1,163,336	31,660,942	64,669,332
Lunenburg.....	16	732	1,831,814	115,747	4,436,528	7,242,274
New Glasgow.....	29	898	2,462,593	409,457	4,459,577	8,387,348
Sydney.....	42	5,311	20,094,682	4,222,968	37,848,272	70,468,813
Trenton.....	8	1,507	4,640,567	593,269	18,106,725	30,481,682
Truro.....	42	1,066	2,049,867	175,200	4,528,638	8,533,011
Yarmouth.....	28	709	1,438,275	150,187	3,664,477	7,138,883
New Brunswick—						
Fredericton.....	38	886	2,027,815	193,368	4,216,907	8,000,950
Lancaster.....	8	484	1,439,745	114,371	3,083,594	8,373,374
Moncton.....	53	2,859	9,231,244	641,499	22,583,840	36,484,935
Newcastle.....	11	472	1,674,499	483,128	4,258,466	5,801,252
Saint John.....	98	4,201	10,846,944	1,538,668	47,253,017	71,528,528
Quebec—						
Acton Vale.....	13	1,053	2,326,536	100,083	5,720,576	9,670,566
Beauharnois.....	17	1,642	5,757,457	4,253,145	14,057,016	35,373,063
Bedford.....	11	825	1,956,212	60,511	2,346,723	5,501,068
Berthierville.....	18	659	1,482,028	156,253	2,667,729	6,566,258
Cap de la Madeleine.....	44	2,820	7,987,983	1,702,160	29,089,711	50,867,047
Chicoutimi.....	37	560	1,443,405	118,333	3,340,510	6,231,249
Coaticook.....	20	994	2,265,203	121,649	9,005,872	9,083,466
Cowansville.....	10	1,662	4,852,285	411,070	9,025,947	16,249,789
Drummondville.....	57	5,997	16,879,119	1,531,706	30,753,463	66,129,986
Farnham.....	19	1,069	2,801,962	206,258	5,207,989	10,729,787
Granby.....	89	5,650	15,246,459	899,002	31,672,470	66,429,225
Grand Mère.....	32	2,803	8,145,447	1,793,735	15,442,424	34,521,544
Hull.....	52	3,721	12,422,721	2,431,666	29,691,881	55,464,280
Huntington.....	13	576	1,799,816	181,937	5,583,054	8,534,000
Jacques Cartier.....	30	3,113	12,326,679	568,416	15,543,543	40,990,259
Joliette.....	59	2,258	5,986,553	669,857	10,253,819	21,439,820
Lachine.....	75	12,705	50,525,519	1,922,211	93,705,650	186,507,045
LaSalle.....	48	5,769	20,651,791	3,489,647	67,147,462	128,269,992
L'Assomption.....	16	606	1,606,887	112,478	4,344,747	7,003,911
Lennoxville.....	12	358	1,153,029	178,959	2,801,766	5,085,562
Lévis.....	40	484	1,187,987	89,629	2,860,367	5,144,012
Longueuil.....	28	1,146	3,100,899	101,441	4,409,195	8,455,794
Louiseville.....	20	1,712	3,983,437	401,409	6,783,155	12,595,570
Magog.....	28	2,558	6,774,918	741,553	33,320,821	45,675,824
Marieville.....	21	646	1,490,323	104,390	5,433,743	8,476,476
Montmagny.....	42	1,382	3,429,846	228,008	7,454,133	12,295,574
Montreal.....	4,289	182,759	582,256,075	22,554,978	1,175,253,762	2,207,680,246
Montreal East.....	39	6,816	28,233,541	21,555,175	523,722,029	739,194,053
Montreal North.....	32	1,051	3,723,246	183,881	8,020,472	13,296,346
Mount Royal.....	38	6,317	20,301,708	600,980	57,714,357	101,077,840
Notre Dame de Portneuf.....	16	611	1,812,706	425,376	3,517,993	6,838,005
Outremont.....	59	1,807	5,492,520	206,767	12,815,739	24,507,545
Plessisville.....	29	1,142	2,895,947	143,876	4,873,268	9,515,207
Princeville.....	15	626	1,440,162	101,956	6,121,774	9,296,232
Quebec.....	441	15,990	45,625,222	6,486,802	104,513,307	204,229,664
Rock Island.....	11	545	1,583,726	64,764	1,423,333	5,188,842
St. Hyacinthe.....	79	4,319	10,664,251	727,283	31,100,859	49,041,488
St. Jean.....	68	4,894	15,213,489	1,052,220	29,460,231	55,522,332
St. Jérôme (Terrebonne Co.).....	57	3,410	8,885,173	628,693	14,538,877	29,518,478
St. Joseph de Sorel.....	8	1,587	5,788,665	521,006	4,247,060	13,216,671
St. Lambert.....	24	865	2,610,380	112,685	4,718,257	9,753,635
St. Laurent.....	76	15,581	59,680,514	2,047,819	67,710,105	176,384,616
Ste. Marie (Beauce Co.).....	19	882	1,946,082	320,402	5,408,966	10,178,029
St. Michel (de Laval).....	92	1,473	4,516,846	430,072	10,745,400	19,999,593
St. Rémi.....	15	432	1,099,872	82,631	4,420,128	7,101,525

11.—Statistics of Manufactures of Municipalities, each with Selling Value of Factory Shipments of \$5,000,000 or Over and with Three or More Establishments, 1956—continued

Province and Municipality	Estab- lish- ments	Em- ployees	Salaries and Wages	Cost of Fuel and Electricity	Cost at Plant of Materials Used	Selling Value of Factory Shipments
	No.	No.	\$	\$	\$	\$
Quebec—concluded						
Ste. Thérèse.....	38	1,204	2,874,750	198,861	5,896,295	11,656,814
Shawinigan Falls.....	48	6,112	23,784,250	10,398,674	57,730,890	134,589,361
Sherbrooke.....	121	8,101	22,661,997	1,536,580	55,196,938	101,606,618
Terrebonne.....	18	628	1,749,834	99,645	5,537,898	6,776,602
Trois Rivières.....	86	8,495	28,559,863	8,690,281	58,784,981	130,933,268
Valleyfield.....	39	3,750	10,732,016	833,441	22,225,808	42,179,770
Verdun.....	71	1,947	4,850,124	154,829	10,681,622	19,470,383
Victoriaville.....	61	2,958	6,793,323	304,730	13,550,641	24,773,717
Waterloo.....	20	574	1,614,353	102,236	2,952,308	5,710,594
Westmount.....	38	1,908	6,198,735	457,877	6,856,062	18,384,680
Ontario—						
Acton.....	20	1,090	2,979,324	303,599	6,945,471	11,892,782
Ajax.....	32	1,390	4,882,051	196,398	10,122,228	18,093,737
Amherstburg.....	14	779	2,460,693	681,686	4,784,100	13,661,869
Arnprior.....	19	1,067	2,991,828	170,426	4,636,873	9,799,637
Aurora.....	18	781	2,099,014	97,874	5,278,227	8,462,503
Barrie.....	37	1,568	4,965,828	318,923	14,892,594	27,267,760
Belleville.....	64	3,234	11,050,470	2,278,111	13,594,073	39,339,324
Bowmanville.....	16	913	3,228,658	204,394	5,868,723	14,440,015
Brampton.....	39	1,588	4,690,447	340,423	10,292,609	20,775,560
Brantford.....	166	10,819	35,679,301	2,031,622	71,630,515	141,009,871
Brookville.....	49	3,050	10,648,175	668,325	56,003,119	82,066,950
Burlington.....	24	765	2,137,097	122,899	5,126,959	9,117,848
Chatham.....	75	3,971	14,796,271	1,169,267	81,756,518	108,998,112
Cobourg.....	31	1,079	3,579,178	246,141	8,394,552	18,213,336
Collingwood.....	21	980	2,913,434	137,850	5,808,067	9,761,570
Cornwall.....	50	4,616	14,695,510	3,026,648	24,312,285	56,256,395
Dundas.....	35	1,386	4,718,774	399,998	5,917,856	13,229,160
Dunnville.....	20	1,252	3,173,218	173,468	10,682,548	16,600,003
Eastview.....	24	454	1,543,520	98,885	6,466,956	9,286,272
Elmira.....	21	624	2,029,045	215,057	6,381,649	11,321,839
Fort Erie.....	27	831	3,104,568	100,835	7,479,239	13,474,589
Fort William.....	69	3,593	13,845,365	3,528,497	28,359,147	61,636,735
Galt.....	95	6,928	22,099,382	909,080	41,696,708	79,730,233
Gananoque.....	16	909	3,085,977	232,982	5,178,661	10,063,160
Georgetown.....	21	1,267	4,356,174	269,774	8,905,499	15,389,392
Goderich.....	17	488	1,326,700	203,176	3,285,382	6,569,315
Guelph.....	109	6,639	22,370,084	1,417,008	41,946,885	84,645,208
Hamilton.....	585	58,742	232,166,085	28,649,240	498,410,570	987,728,987
Hanover.....	22	854	2,581,825	116,527	4,212,300	8,037,677
Hespeler.....	18	1,893	5,376,592	566,582	9,006,614	17,829,767
Ingersoll.....	25	1,146	3,639,559	225,772	9,827,033	15,738,355
Kingston.....	76	6,284	21,816,388	1,714,331	47,304,256	94,118,293
Kitchener.....	211	15,708	52,562,067	2,404,992	112,940,012	221,712,416
Leaside.....	51	8,325	30,553,396	1,182,500	67,401,162	132,605,940
Lindsay.....	35	1,545	4,392,662	382,918	7,430,862	16,307,997
London.....	282	15,311	50,558,916	2,685,009	99,451,565	211,680,764
Long Branch.....	25	1,469	5,260,367	277,528	9,039,266	19,425,706
Merrittton.....	18	2,312	9,146,398	1,440,188	15,369,556	34,857,341
Midland.....	25	1,017	2,670,035	109,215	7,391,963	12,155,770
Milton.....	15	1,032	3,909,715	539,221	5,670,051	14,863,691
Mimico.....	44	993	3,266,057	186,229	6,873,011	13,039,873
New Liskeard.....	13	618	1,883,996	94,754	3,279,152	5,918,168
Newmarket.....	21	1,063	3,252,225	168,746	5,616,042	12,398,549
New Toronto.....	48	7,794	32,082,448	2,160,181	107,042,854	196,959,953
Niagara Falls.....	79	5,040	18,638,595	4,555,087	33,603,401	75,992,171
North Bay.....	24	544	1,690,778	129,610	3,457,653	6,522,570
Oakville.....	46	1,700	5,919,909	327,715	11,892,882	25,567,050
Orillia.....	59	2,478	7,537,921	477,622	9,468,527	22,321,692
Ottawa.....	315	10,550	33,875,042	2,456,808	52,013,225	119,651,176
Owen Sound.....	50	2,778	8,450,069	350,826	11,349,241	26,833,365
Paris.....	24	1,337	3,910,696	176,092	8,609,572	13,454,731
Pembroke.....	29	1,462	4,147,444	173,320	7,827,460	15,248,332
Perth.....	24	826	2,101,424	113,066	4,302,948	9,106,363
Peterborough.....	92	9,908	37,792,710	1,367,179	84,409,866	153,391,995
Port Arthur.....	57	2,653	9,986,733	2,331,096	18,092,615	45,063,002
Port Dover.....	11	445	1,125,742	65,841	14,566,333	17,824,550
Port Hope.....	25	1,379	4,938,319	391,302	48,789,885	58,734,168
Preston.....	37	2,949	9,267,743	341,331	12,604,088	27,025,243
Renfrew.....	25	977	2,690,390	172,940	5,499,979	10,015,971
St. Catharines.....	100	5,974	22,346,769	1,000,864	33,201,674	67,403,824

11.—Statistics of Manufactures of Municipalities, each with Selling Value of Factory Shipments of \$5,000,000 or Over and with Three or More Establishments, 1956—concluded

Province and Municipality	Estab- lish- ments	Em- ployees	Salaries and Wages	Cost of Fuel and Electricity	Cost at Plant of Materials Used	Selling Value of Factory Shipments
	No.	No.	\$	\$	\$	\$
Ontario—concluded						
St. Mary's.....	12	562	1,936,276	1,569,943	6,143,295	14,119,224
St. Thomas.....	49	2,323	7,559,293	436,845	14,242,918	30,526,584
Sarnia.....	57	7,134	30,444,350	17,434,140	182,458,968	356,837,399
Sault Ste. Marie.....	52	8,845	40,560,759	9,163,169	77,733,384	168,320,295
Simcoe.....	32	1,397	4,537,671	319,794	25,772,071	36,075,297
Smith's Falls.....	28	702	1,828,892	168,945	3,451,521	8,803,035
Stratford.....	68	3,905	12,465,222	492,831	20,931,464	41,617,482
Strathroy.....	22	574	1,563,345	85,657	3,058,323	7,166,284
Streetsville.....	14	588	2,044,532	337,612	3,264,299	7,737,158
Sudbury.....	60	1,104	3,403,147	352,128	6,485,914	13,815,392
Swansea.....	18	935	3,469,054	322,570	7,618,329	14,756,212
Thorold.....	23	1,594	6,230,557	1,859,815	12,364,352	24,965,154
Tillsonburg.....	25	1,001	2,603,235	311,996	11,931,892	17,327,092
Toronto.....	3,411	133,758	470,860,187	19,997,349	962,271,402	1,797,706,145
Trenton.....	29	1,763	5,243,481	627,359	11,060,018	24,203,178
Walkerton.....	12	543	1,424,820	45,814	1,829,289	5,054,525
Wallaceburg.....	28	2,115	7,321,059	917,986	6,992,068	18,879,620
Waterloo.....	66	3,080	10,043,821	529,641	17,634,129	49,705,271
Welland.....	55	3,361	12,030,503	908,258	17,933,438	39,429,552
Weston.....	67	3,355	12,741,913	636,454	24,888,351	48,622,503
Windsor.....	336	24,091	96,798,387	5,453,651	186,300,126	369,790,090
Woodstock.....	64	4,164	13,318,026	889,023	36,166,395	59,729,203
Manitoba—						
Brandon.....	44	938	2,740,347	404,368	10,811,256	17,205,035
St. Boniface.....	96	4,917	17,009,972	1,909,880	104,335,130	139,879,052
St. James.....	29	1,933	6,060,475	224,681	7,851,907	19,288,843
Winnipeg.....	869	26,629	80,891,909	3,669,114	163,808,663	309,520,043
Saskatchewan—						
Moose Jaw.....	47	1,361	4,561,272	1,129,303	32,954,800	49,069,531
Prince Albert.....	33	796	2,595,554	234,224	9,478,825	15,482,743
Regina.....	143	3,558	12,178,078	2,837,981	50,369,302	90,518,613
Saskatoon.....	122	2,979	9,620,611	1,154,935	50,132,283	70,980,574
Alberta—						
Calgary.....	349	9,981	34,433,282	1,981,132	110,613,694	178,592,742
Edmonton.....	383	11,850	38,670,424	1,914,705	124,357,166	202,341,246
Lethbridge.....	59	1,171	3,411,926	276,840	9,609,803	18,441,892
Medicine Hat.....	39	1,081	3,015,703	197,797	12,870,789	19,179,216
Red Deer.....	26	330	938,932	82,996	3,419,978	6,425,687
British Columbia—						
Abbotsford.....	13	296	985,022	270,610	7,029,568	9,594,056
Kamloops.....	35	508	1,431,308	119,116	3,396,472	6,399,236
Kelowna.....	36	778	2,264,218	124,044	3,749,657	8,235,414
Nanaimo.....	25	503	1,694,292	141,591	2,987,778	6,628,512
New Westminster.....	111	6,286	23,194,681	1,605,502	62,687,765	110,956,033
North Vancouver.....	73	2,991	12,190,246	571,859	14,229,693	36,624,624
Port Alberni.....	18	1,897	7,330,355	318,060	19,711,124	35,846,120
Port Moody.....	8	762	2,679,076	61,960	8,375,205	11,604,313
Prince George.....	72	1,015	3,053,791	292,506	13,316,513	18,814,157
Prince Rupert.....	19	326	1,009,077	101,903	3,508,450	5,556,227
Quesnel.....	59	346	849,278	107,426	3,060,512	5,394,955
Vancouver.....	1,299	36,052	131,540,861	6,326,318	289,290,344	534,658,163
Victoria.....	203	4,648	16,800,472	948,662	80,103,571	62,764,764

CHAPTER XV.—CAPITAL EXPENDITURES, CONSTRUCTION AND HOUSING

CONSPECTUS

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NOTE.—The interpretation of the symbols used in the tables throughout the Year Book will be found facing p. 1 of this volume.

This Chapter provides data on the capital expenditures made by all sectors of the Canadian economy on construction and on machinery and equipment, together with summaries of other available statistics for the construction industry. Section 1 describes the purpose of capital expenditures and shows the amounts spent by each of the various industrial or economic sectors. Section 2 brings together a number of summaries of related series on construction activity: value of work performed by type of structure, value of materials used, salaries and wages paid and numbers employed, contracts awarded and building permits issued. Construction of dwelling units and government aid to house-building is covered in Section 3.

Section 1.—Capital Expenditures on Construction and on Machinery and Equipment*

One of the most noticeable aspects of Canada's recent economic growth has been the very high rate of capital investment. In the postwar years capital outlays have absorbed on average approximately one-fifth of the Gross National Product, the 1957 proportion being 27 p.c. Since 1946, new investment by all sectors of the economy has amounted to approximately \$59,000,000,000; each year except 1954 recorded an increase. In 1946 capital expenditures made on new construction, machinery and equipment amounted to \$1,703,000,000; in 1957 they reached the record total of \$8,721,000,000. Estimates for 1958 show a moderate decline from the 1957 high.

Although the growth of secondary industry and attempts by all levels of government to meet the growing demands for social capital have been important, the principal impetus of the postwar capital boom has been provided by the natural resources sector, especially the mineral, forest and power-generating industries.

The primary mining sector of the economy has undergone tremendous growth in the postwar period. In terms of output it has increased in size more than fourfold; in terms of new investment the growth has been even more impressive. Capital expenditures increased each year from \$27,000,000 in 1946 to \$585,000,000 in 1957. It is during this period that

* Information is given in greater detail in the Department of Trade and Commerce annual report *Private and Public Investment in Canada*.

the great developments have taken place in the oil and gas, uranium and iron ore industries, necessitating tremendous expenditures on new construction and equipment. To the heavy expenditures of the past two years may be added those of the nickel industry.

1.—Capital Expenditures on Construction and on Machinery and Equipment, 1929-58

NOTE.—Actual expenditures 1929-56; preliminary actual 1957; intentions 1958.

Year	Capital Expenditures	P.C. of Gross National Product	Year	Capital Expenditures	P.C. of Gross National Product
	\$'000,000			\$'000,000	
1929.....	1,518	24.6	1944.....	1,309	11.0
1930.....	1,287	23.2	1945.....	1,284	10.8
1931.....	881	19.3	1946.....	1,703	14.2
1932.....	491	13.0	1947.....	2,489	18.1
1933.....	327	9.2	1948.....	3,175	20.3
1934.....	416	10.3	1949 ¹	3,502	21.3
1935.....	505	11.6	1950.....	3,815	21.0
1936.....	590	12.6	1951.....	4,577	21.3
1937.....	828	15.5	1952.....	5,285	22.7
1938.....	773	14.8	1953.....	5,841	23.9
1939.....	765	13.4	1954.....	5,620	23.3
1940.....	1,048	15.3	1955.....	6,350	23.7
1941.....	1,463	17.2	1956.....	8,024	25.1
1942.....	1,542	14.6	1957.....	8,721	26.5
1943.....	1,485	13.3	1958.....	8,521	..

¹ Newfoundland included from 1949.

The rate of annual investment in the manufacturing industries has also increased fourfold since 1946. Within this period, however, there has been considerable year-to-year fluctuation in the amounts invested. Substantial increases took place in 1947, 1951 and 1952, followed by a sharp decline in 1954. Increases occurred again in 1955 and 1956, particularly in the latter year. The investment pattern of some of the smaller industries has deviated widely from the group trend but among the major industries only petroleum and coal products showed any substantial variation. In this industry a sizable increase in capital spending was recorded in 1954, but a decline occurred in 1955.

Of the industries that make up the manufacturing group, pulp and paper is by far the most important. After the War, the demand for the products of this industry began to climb and continued strong during most of the postwar period. As a result, new investment rose steadily, reaching in 1957 a level about 19 times as high as the war-year average. The investment programs in the industry have been typically large-scale, involving mainly the building and equipping of pulp, paper or combined pulp and paper mills. Considerable outlays were also made for modernizing and expanding mills already in operation. Three new mills came into operation in 1957, one each in Ontario, Alberta and British Columbia.

Of particular significance in industrial pace-setting was the rapid expansion of the iron and steel industry. The extension of steel-making facilities that had taken place during the War formed the basis for greater expansion in the postwar period. Basic steel-making capacity rose from less than 2,500,000 tons annually to 3,600,000 during the war years and by the beginning of 1957 amounted to 4,300,000 tons. Old blast furnaces and open hearths were rebuilt and enlarged and several large new units added. The introduction in 1954 of a new oxygen steel-making process also contributed appreciably to raising production efficiency. At the same time, substantial progress was made in increasing the productive capacities of other steel-processing facilities, including the automation of many operations at the rolling-mill level. There are now a number of

fully mechanized strip mills and cold-rolling mills capable of producing lighter and finer quality strips and sheets. New and improved facilities for the production of galvanized sheets, tinplate and various special alloy steels have added to the variety of products.

Undoubtedly, the most rapid build-up of capital facilities within the manufacturing group took place in the petroleum products industry. In the five-year period preceding 1951, capital expenditures in the petroleum, natural gas and coal products industry averaged less than \$30,000,000 annually; from 1951 onward they have run close to \$100,000,000 a year. Consequent upon the plentiful supply of low-cost petroleum and natural gas has been the establishment of a fast-growing petrochemical industry in Canada. From a small wartime start of two plants—one at Calgary in Alberta and the other at Sarnia in Ontario—the industry now comprises over two dozen plants and has an annual production valued at over \$160,000,000.

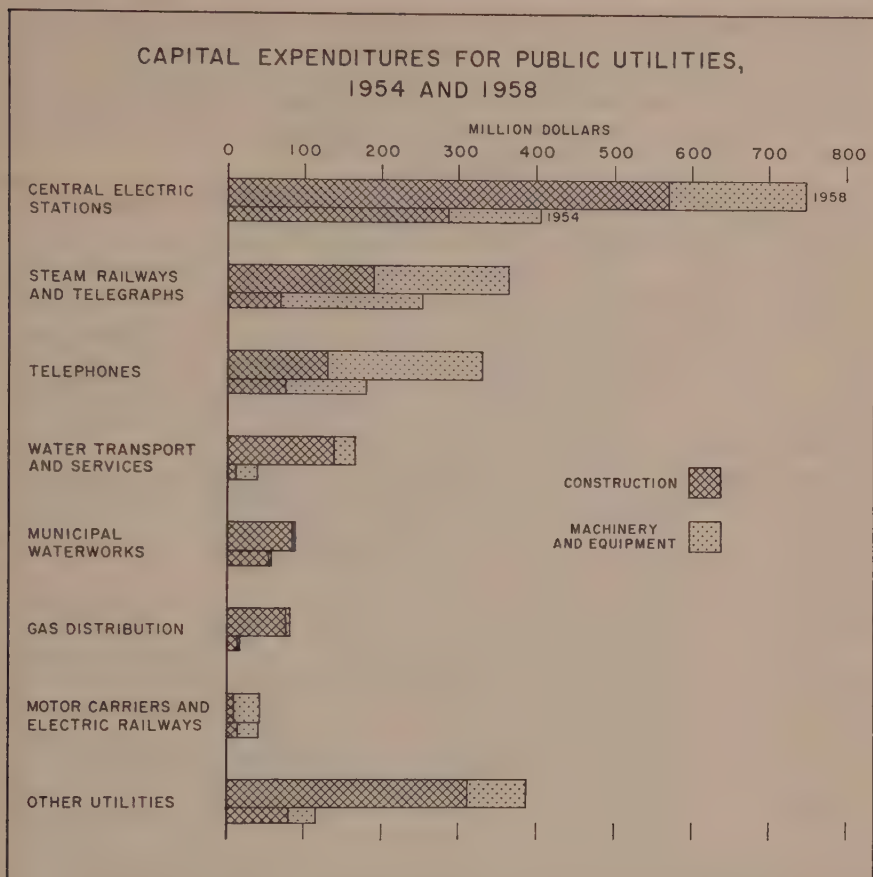
Capital investment by public utilities has recorded a much higher rate of growth than has capital investment in manufacturing industries, especially in recent years. New investment by public utilities during the period 1946-57 amounted to about \$12,400,000,000. Each year, except 1954 and 1955, recorded increases, particularly 1956 and 1957. Nearly half the capital investment in utilities was in central electric stations; growing demand for electric power, coincident with Canada's industrial development, led to increasingly large outlays for the erecting and equipping of new power-generating plants and the expansion of existing installations. Numerous hydro-electric power plants have been constructed ranging in capacity from a few hundred to more than 1,000,000 h.p.; installed hydro-electric capacity has about doubled in the postwar period.

The construction of gas and oil pipeline mileage has called for heavy expenditure. In the earlier postwar years capital outlays by pipeline companies were insignificant, averaging less than \$3,000,000 a year from 1946 to 1949. However, the principal oil pipeline projects were started in 1950 and the major gas pipelines in 1956, so that expenditures have remained high throughout that period. New investment in gas-distributing facilities has accompanied the extension of gas pipelines; in the ten-year period 1946-55, new investment in such facilities averaged \$9,000,000 a year but in 1957 it was \$70,500,000 and in 1958, \$82,300,000.

Capital outlays by railroads have been directed more towards increasing efficiency and speed of service than towards increasing track mileage. However, several new railways have been built recently, mainly to link new resource developments with main lines. Capital expenditures by the telephone group have increased in each year since 1946 with the exception of 1950—the number of telephones in use has more than doubled and mechanical and technical advances have been made to improve service.

Generally speaking, the service industries—trade, financial and commercial services—have kept pace with the rising level of private and public investment. In 1957, capital investment by these industries amounted to \$857,000,000—nearly four times the 1946 total. Although this increase reflects considerable growth of the industries concerned, capital outlays by the group represented only about 8 p.c. of total new investment in the economy. Expenditures by institutions represented somewhat less than 4.5 p.c. of total new investment since 1946, the larger part of it going into educational institutions followed in order by hospitals and churches.

The importance in the Canadian economy of capital expenditures on housing is indicated by the fact that the value of new dwelling units built since 1946 has been close to one-third of the total value of new construction during the period. The amount spent on new houses, including those financed with government assistance, increased each year from 1946 to 1956, declined slightly in 1957 mainly because of financing difficulties, and



increased again to reach a record high in 1958. Action by the Federal Government in 1957 and early 1958 making available, under the National Housing Act, funds to finance the construction of homes and rental units for low and moderate income families and the easing of the conditions under which NHA loans are granted, contributed to the house-building activity in 1958.

A slight decline in total new investment is anticipated for 1958. Private investment is expected to be down about 11.5 p.c. The entire western world had, by 1957, reached a stage where substantial over-capacity existed for a number of basic products and until world demand grows sufficiently to match these new levels of productive capacity, a decline in the rate of investment in Canada's basic industries can be expected. Investment in most utilities should be maintained at high levels with only a slight decline for the group as a whole. Investment in commercial, merchandising and service groups shows differing trends—the financial sector shows signs of advancing slightly but trade and commercial services will decline moderately. However, the weakening in the private sector will be largely offset by greater spending in the non-business group, particularly on residential building. Institutional investment has still a large backlog to make up and higher levels of activity are anticipated for 1958. Direct government investment is expected to increase

appreciably; many federal, provincial and municipal projects, postponed during recent years when demand for business capital was heavy, can now be carried out. In the aggregate, investment in the non-business sector of the economy is expected to exceed that of 1957 by about 14 p.c. For the economy as a whole, capital investment on new construction, machinery and equipment in 1958 is estimated at about \$8,520,000,000, a decrease of 2.3 p.c. from the peak investment year of 1957.

2.—Summary of Capital and Repair Expenditures, by Economic Sector, 1956-58

NOTE.—Actual expenditures 1956; preliminary actual 1957; intentions 1958.

(Millions of dollars)

Type of Enterprise and Year	Capital			Repair			Capital and Repair		
	Con- struction	Ma- chinery and Equip- ment	Total	Con- struction	Ma- chinery and Equip- ment	Total	Con- struction	Ma- chinery and Equip- ment	Total
Agriculture and fishing.....1956	99	389	488	73	133	206	172	522	694
1957	92	389	481	67	136	203	159	525	684
1958	93	387	480	67	140	207	160	527	687
Forestry.....1956	41	35	76	20	30	50	61	65	126
1957	25	18	43	18	26	44	43	44	87
1958	19	17	36	18	25	43	37	42	79
Mining, quarrying and oil wells.....1956	378	164	542	19	62	81	397	226	623
1957	392	193	585	22	64	86	414	257	671
1958	285	116	401	21	66	87	306	182	488
Manufacturing.....1956	488	906	1,394	112	466	578	600	1,372	1,972
1957	538	888	1,426	114	485	599	652	1,373	2,025
1958	408	733	1,141	110	478	588	518	1,211	1,729
Utilities.....1956	1,086	638	1,724	248	401	649	1,334	1,039	2,373
1957	1,564	749	2,313	263	391	654	1,827	1,140	2,967
1958	1,515	721	2,236	266	403	669	1,781	1,124	2,905
Construction.....1956	16	184	200	4	134	138	20	318	338
1957	25	136	161	3	126	129	28	262	290
1958	20	109	129	2	110	112	22	219	241
Housing.....1956	1,575	—	1,575	256	—	256	1,831	—	1,831
1957	1,415	—	1,415	270	—	270	1,685	—	1,685
1958	1,635	—	1,635	286	—	286	1,921	—	1,921
Trade (wholesale and retail).1956	177	148	325	35	35	70	212	183	395
1957	220	160	380	33	32	65	253	192	445
1958	210	160	370	35	32	67	245	192	437
Finance, insurance and real estate.....1956	99	25	124	10	5	15	109	30	139
1957	119	24	143	11	5	16	130	29	159
1958	124	24	148	10	4	14	134	28	162
Commercial services.....1956	51	111	162	12	41	53	63	152	215
1957	80	116	196	14	43	57	94	159	253
1958	55	115	170	14	40	54	69	155	224
Institutional services.....1956	359	43	402	45	7	52	404	50	454
1957	399	44	443	44	8	52	443	52	495
1958	476	51	527	45	8	53	521	59	580
Government departments....1956	932	80	1,012	248	34	282	1,180	114	1,294
1957	1,052	83	1,135	271	43	314	1,323	126	1,449
1958	1,151	97	1,248	271	50	321	1,422	147	1,569
Totals.....1956	5,301	2,723	8,024	1,052	1,348	2,430	6,383	4,071	10,454
1957	5,921	2,800	8,721	1,130	1,359	2,489	7,051	4,159	11,210
1958	5,991	2,530	8,521	1,145	1,356	2,501	7,136	3,886	11,022

Details of some of the above economic sectors are given in Table 3. The construction industry and housing are dealt with in Sections 2 and 3 of this Chapter.

3.—Capital and Repair Expenditures for Certain Economic Sectors, 1956-58

NOTE.—Actual expenditures 1956; preliminary actual 1957; intentions 1958.

(Millions of dollars)

Type of Enterprise and Year	Capital			Repair			Capital and Repair		
	Con- struction	Ma- chinery and Equip- ment	Total	Con- struction	Ma- chinery and Equip- ment	Total	Con- struction	Ma- chinery and Equip- ment	Total
MANUFACTURING									
Foods and beverages.....1956	32.6	76.5	109.1	12.2	45.0	57.2	44.8	121.5	166.3
1957	39.4	79.4	118.8	13.1	43.5	56.6	52.5	122.9	175.4
1958	40.2	72.9	113.1	12.8	41.7	54.5	53.0	114.6	167.6
Tobacco and tobacco products1956	3.5	4.7	8.2	0.9	2.1	3.0	4.4	6.8	11.2
1957	1.5	6.5	8.0	1.1	2.5	3.6	2.6	9.0	11.6
1958	2.0	4.0	6.0	0.5	2.2	2.7	2.5	6.2	8.7
Rubber products.....1956	2.9	11.0	13.9	1.1	7.4	8.5	4.0	18.4	22.4
1957	5.7	11.4	17.1	1.1	7.9	9.0	6.8	19.3	26.1
1958	4.3	12.0	16.3	1.1	7.8	8.9	5.4	19.8	25.2
Leather products.....1956	1.8	2.5	4.3	0.7	2.5	3.2	2.5	5.0	7.5
1957	1.1	2.2	3.3	0.7	2.4	3.1	1.8	4.6	6.4
1958	0.2	1.3	1.5	0.6	2.0	2.6	0.8	3.3	4.1
Textile products (excluding clothing).....1956	10.3	28.0	38.3	3.4	17.1	20.5	13.7	45.1	58.8
1957	7.0	22.7	29.7	3.5	18.3	21.8	10.5	41.0	51.5
1958	3.1	17.0	20.1	3.2	16.2	19.4	6.3	33.2	39.5
Clothing.....1956	1.3	8.4	9.7	1.2	4.4	5.6	2.5	12.8	15.3
1957	0.9	8.7	9.6	1.3	4.0	5.3	2.2	12.7	14.9
1958	0.2	6.1	6.3	1.1	4.1	5.2	1.3	10.2	11.5
Wood products.....1956	14.0	36.8	50.8	7.4	28.8	36.2	21.4	65.6	87.0
1957	9.1	22.5	31.6	5.8	23.1	28.9	14.9	45.6	60.5
1958	5.2	14.0	19.2	5.0	21.6	26.6	10.2	35.6	45.8
Paper products.....1956	85.1	172.3	257.4	10.3	85.6	95.9	95.4	257.9	353.3
1957	60.8	196.5	257.3	8.4	91.1	99.5	69.2	287.6	356.8
1958	18.9	109.9	128.8	7.6	88.8	96.4	26.5	198.7	225.2
Printing, publishing and allied industries.....1956	5.3	20.2	25.5	1.6	5.5	7.1	6.9	25.7	32.6
1957	17.7	19.4	37.1	2.0	5.0	7.0	19.7	24.4	44.1
1958	19.5	19.7	39.2	1.7	5.2	6.9	21.2	24.9	46.1
Iron and steel products.....1956	40.3	122.2	162.5	15.4	93.5	108.9	55.7	215.7	271.4
1957	60.6	117.8	178.4	16.3	105.5	121.8	76.9	223.3	300.2
1958	37.1	87.7	124.8	14.9	101.0	115.9	52.0	188.7	240.7
Transportation equipment...1956	16.7	43.6	60.3	10.6	32.0	42.6	27.3	75.6	102.9
1957	26.7	47.9	74.6	14.3	35.5	49.8	41.0	83.4	124.4
1958	26.4	50.3	76.7	14.6	34.2	48.8	41.0	84.5	125.5
Non-ferrous metal products..1956	62.4	55.0	117.4	11.4	50.9	62.3	73.8	105.9	179.7
1957	73.5	53.9	127.4	9.9	54.0	63.9	83.4	107.9	191.3
1958	37.2	60.1	97.3	9.9	59.6	69.5	47.1	119.7	166.8
Electrical apparatus and supplies.....1956	14.7	26.8	41.5	3.8	15.6	19.4	18.5	42.4	60.9
1957	15.7	30.5	46.2	3.5	14.5	18.0	19.2	45.0	64.2
1958	8.7	30.6	39.3	3.0	14.1	17.1	11.7	44.7	56.4
Non-metallic mineral products.....1956	51.4	68.6	120.0	3.0	31.7	34.7	54.4	100.3	154.7
1957	26.3	44.6	70.9	2.9	29.9	32.8	29.2	74.5	103.7
1958	9.4	23.5	32.9	3.0	29.9	32.9	12.4	53.4	65.8
Products of petroleum and coal.....1956	83.9	9.1	93.0	21.6	8.1	29.7	105.5	17.2	122.7
1957	119.5	8.9	128.4	20.3	6.6	26.9	139.8	15.5	155.3
1958	140.3	9.9	150.2	21.0	5.2	26.2	161.3	15.1	176.4

3.—Capital and Repair Expenditures for Certain Economic Sectors, 1956-58—continued

Type of Enterprise and Year	Capital			Repair			Capital and Repair		
	Con- struction	Ma- chinery and Equip- ment	Total	Con- struction	Ma- chinery and Equip- ment	Total	Con- struction	Ma- chinery and Equip- ment	Total
MANUFACTURING—concluded									
Chemical products.....1956	57.9	87.0	144.9	6.2	31.9	38.1	64.1	118.9	183.0
1957	66.5	82.7	149.2	8.0	37.3	45.3	74.5	120.0	194.5
1958	52.1	97.3	149.4	8.4	40.3	48.7	60.5	137.6	198.1
Miscellaneous.....1956	3.6	8.7	12.3	1.4	3.5	4.9	5.0	12.2	17.2
1957	5.9	7.6	13.5	1.4	3.9	5.3	7.3	11.5	18.8
1958	3.3	7.0	10.3	1.4	3.9	5.3	4.7	10.9	15.6
Capital items charged to operating expenses.....1956	—	124.7	124.7	—	—	—	—	124.7	124.7
1957	—	124.7	124.7	—	—	—	—	124.7	124.7
1958	—	110.1	110.1	—	—	—	—	110.1	110.1
Totals, Manufacturing 1956	487.7	906.1	1,393.8	112.2	465.6	577.8	599.9	1,371.7	1,971.6
1957	537.9	887.9	1,425.8	113.6	455.0	568.6	651.5	1,372.9	2,024.4
1958	408.1	733.4	1,141.5	109.8	477.8	587.6	517.9	1,211.2	1,729.1
UTILITIES									
Central electric stations.....1956	450.9	158.8	609.7	37.1	23.3	60.4	488.0	182.1	670.1
1957	605.6	172.6	778.2	38.5	21.0	59.5	644.1	193.6	837.7
1958	571.8	178.9	750.7	40.6	23.3	63.9	612.4	202.2	814.6
Gas distribution.....1956	42.0	4.6	46.6	3.7	1.9	5.6	45.7	6.5	52.2
1957	65.8	4.7	70.5	3.1	1.3	4.4	68.9	6.0	74.9
1958	78.2	4.1	82.3	2.6	1.4	4.0	80.8	5.5	86.3
Steam railways and telegraphs.....1956	155.2	188.5	343.7	151.7	184.2	335.9	306.9	372.7	679.6
1957	178.9	237.0	415.9	165.6	191.7	357.3	344.5	428.7	773.2
1958	190.1	176.1	366.2	162.5	190.1	352.6	352.6	366.2	718.8
Electric railways.....1956	7.4	12.8	20.2	5.7	14.8	20.5	13.1	27.6	40.7
1957	9.7	11.5	21.2	5.2	15.5	20.7	14.9	27.0	41.9
1958	6.1	15.3	21.4	5.6	15.9	21.5	11.7	31.2	42.9
Water transport and services.....1956	60.2	25.1	85.3	3.7	20.3	24.0	63.9	45.4	109.3
1957	110.8	33.1	143.9	3.4	16.7	20.1	114.2	49.8	164.0
1958	139.6	28.9	168.5	3.6	17.7	21.3	143.2	46.6	189.8
Motor carriers.....1956	3.1	41.1	44.2	1.1	39.9	41.0	4.2	81.0	85.2
1957	5.9	28.6	34.5	1.1	36.6	37.7	7.0	65.2	72.2
1958	1.6	21.3	22.9	1.1	35.6	36.7	2.7	56.9	59.6
Grain elevators.....1956	10.7	3.8	14.5	4.9	2.2	7.1	15.6	6.0	21.6
1957	6.4	3.5	9.9	5.3	2.0	7.3	11.7	5.5	17.2
1958	7.4	2.1	9.5	5.5	1.8	7.3	12.9	3.9	16.8
Telephones.....1956	98.7	149.5	248.2	22.7	65.4	88.1	121.4	214.9	336.3
1957	109.5	187.2	296.7	22.8	68.1	90.9	132.3	255.3	387.6
1958	130.0	202.1	332.1	24.9	75.5	100.4	154.9	277.6	432.5
Broadcasting.....1956	3.9	4.7	8.6	0.4	2.0	2.4	4.3	6.7	11.0
1957	4.4	4.0	8.4	0.4	2.1	2.5	4.8	6.1	10.9
1958	2.6	5.8	8.4	0.4	2.0	2.4	3.0	7.8	10.8
Municipal waterworks.....1956	66.4	4.8	71.2	12.3	1.5	13.8	78.7	6.3	85.0
1957	62.8	7.2	70.0	12.8	1.5	14.3	75.6	8.7	84.3
1958	86.4	2.9	89.3	14.1	1.5	15.6	100.5	4.4	104.9
Other utilities ¹ 1956	187.4	31.2	218.6	4.3	36.3	40.6	191.7	67.5	259.2
1957	404.3	45.3	449.6	4.8	34.5	39.3	409.1	79.8	488.9
1958	301.3	69.3	370.6	5.0	38.3	43.3	306.3	107.6	413.9

¹ Includes air transport, warehousing and oil and gas pipelines.

3.—Capital and Repair Expenditures for Certain Economic Sectors, 1956-58—concluded

Type of Enterprise and Year	Capital			Repair			Capital and Repair		
	Con- struc- tion	Ma- chinery and Equip- ment	Total	Con- struc- tion	Ma- chinery and Equip- ment	Total	Con- struc- tion	Ma- chinery and Equip- ment	Total
UTILITIES—concluded									
Capital items charged to operating expenses.....									
1956	—	13.4	13.4	—	—	—	—	13.4	13.4
1957	—	14.7	14.7	—	—	—	—	14.7	14.7
1958	—	14.5	14.5	—	—	—	—	14.5	14.5
Totals, Utilities.....	1956	1,055.9	638.3	1,724.2	247.6	391.8	639.4	1,333.5	2,363.6
	1957	1,564.1	749.4	2,313.5	263.0	391.0	654.0	1,827.1	2,967.5
	1958	1,515.1	721.3	2,236.4	265.9	403.1	669.0	1,781.0	2,905.4
TRADE									
Wholesale.....									
1956	35.5	31.3	66.8	4.7	7.0	11.7	40.2	38.3	78.5
1957	28.8	22.6	51.4	4.3	5.3	9.6	33.1	27.9	61.0
1958	24.5	17.8	42.3	3.7	5.1	8.8	28.2	22.9	51.1
Chain stores.....									
1956	26.4	23.3	49.7	4.4	4.3	8.7	30.8	27.6	58.4
1957	41.5	28.6	70.1	3.7	3.4	7.1	45.2	32.0	77.2
1958	37.2	29.8	67.0	4.8	3.5	8.3	42.0	33.3	75.3
Independent stores.....									
1956	53.0	46.4	99.4	12.3	12.0	24.3	65.3	58.4	123.7
1957	84.1	60.7	144.8	12.0	10.3	22.3	96.1	71.0	167.1
1958	80.7	59.6	140.3	13.7	10.5	24.2	94.4	70.1	164.5
Department stores.....									
1956	13.0	7.5	20.5	4.1	3.0	7.1	17.1	10.5	27.6
1957	14.1	8.3	22.4	3.6	2.7	6.3	17.7	11.0	28.7
1958	15.9	6.4	22.3	3.6	2.7	6.3	19.5	9.1	28.6
Automotive trade.....									
1956	49.3	25.8	75.1	9.9	8.6	18.5	59.2	34.4	93.6
1957	51.4	25.7	77.1	9.3	10.2	19.5	60.7	35.9	96.6
1958	51.4	31.7	83.1	9.4	10.6	20.0	60.8	42.3	103.1
Capital items charged to operating expenses.....									
1956	—	13.5	13.5	—	—	—	—	13.5	13.5
1957	—	14.2	14.2	—	—	—	—	14.2	14.2
1958	—	14.2	14.2	—	—	—	—	14.2	14.2
Totals, Trade.....	1956	177.2	147.8	325.0	35.4	34.9	70.3	212.6	182.7
	1957	219.9	160.1	380.0	32.9	31.9	64.8	252.8	192.0
	1958	209.7	159.5	369.2	35.2	32.4	67.6	244.9	191.9
INSTITUTIONS									
Churches.....									
1956	43.8	2.8	46.6	6.5	0.3	6.8	50.3	3.1	53.4
1957	45.7	3.0	48.7	6.3	0.5	6.8	52.0	3.5	55.5
1958	39.7	2.9	42.6	6.1	0.5	6.6	45.8	3.4	49.2
Universities.....									
1956	22.3	4.0	26.3	3.6	0.3	3.9	25.9	4.3	30.2
1957	38.0	4.6	42.6	3.4	0.2	3.6	41.4	4.8	46.2
1958	58.8	5.4	64.2	4.4	0.3	4.7	63.2	5.7	68.9
Schools.....									
1956	173.1	16.8	189.9	18.7	3.1	21.8	191.8	19.9	211.7
1957	197.8	19.6	217.4	20.0	3.2	23.2	217.8	22.8	240.6
1958	194.5	18.8	213.3	21.2	3.3	24.5	215.7	22.1	237.8
Hospitals.....									
1956	110.0	18.7	128.7	15.2	3.5	18.7	125.2	22.2	147.4
1957	108.5	16.8	125.3	13.4	3.9	17.3	121.9	20.7	142.6
1958	168.1	23.3	191.4	12.6	4.1	16.7	180.7	27.4	208.1
Other institutions ¹									
1956	9.6	0.3	9.9	0.8	0.1	0.9	10.4	0.4	10.8
1957	8.9	0.4	9.3	0.9	—	0.9	9.8	0.4	10.2
1958	14.5	0.4	14.9	0.5	—	0.5	15.0	0.4	15.4
Totals, Institutions....	1956	358.8	42.6	401.4	44.8	7.3	51.1	403.6	49.9
	1957	398.9	44.4	443.3	44.0	7.8	51.8	442.9	52.2
	1958	475.6	50.8	526.4	44.8	8.2	53.0	520.4	59.0

¹ Includes privately operated social and welfare institutions.

A summary of the capital expenditures in each province for the years 1956-58 is given in Table 4. Such expenditures represent gross additions to the capital stock of the province and are a reflection of economic activity in that area, but the actual production of these assets may generate its major employment in income-giving effects in other regions. For example, the spending of millions of dollars on oil refineries and pipelines in Western Canada means activity in the steel industries of Ontario as well as construction activity in the Prairie Provinces.

4.—Capital and Repair Expenditures, by Province, 1956-58

NOTE.—Actual expenditures 1956; preliminary actual 1957; intentions 1958.

(Millions of dollars)

Province and Year	Capital			Repair			Capital and Repair		
	Con- struction	Ma- chinery and Equip- ment	Total	Con- struction	Ma- chinery and Equip- ment	Total	Con- struction	Ma- chinery and Equip- ment	Total
Newfoundland.....1956	66	28	94	16	14	30	82	42	124
1957	62	36	98	19	15	34	81	51	132
1958	69	30	99	22	15	37	91	45	136
Prince Edward Island.....1956	15	9	24	4	6	10	19	15	34
1957	14	10	24	3	6	9	17	16	33
1958	18	12	30	4	5	9	22	17	39
Nova Scotia.....1956	122	61	183	39	35	74	161	96	257
1957	113	66	179	39	36	75	152	102	254
1958	141	66	207	40	37	77	181	103	284
New Brunswick.....1956	136	50	186	31	32	63	167	82	249
1957	109	53	162	38	31	69	147	84	231
1958	114	55	169	39	31	70	153	86	239
Quebec.....1956	1,260	591	1,851	264	338	602	1,524	929	2,453
1957	1,402	621	2,023	261	312	573	1,663	933	2,596
1958	1,379	602	1,981	257	321	578	1,636	923	2,559
Ontario.....1956	1,788	1,054	2,842	374	510	884	2,162	1,564	3,726
1957	2,124	1,095	3,219	398	551	949	2,522	1,646	4,168
1958	2,295	944	3,239	411	545	956	2,706	1,489	4,195
Manitoba.....1956	243	121	364	62	69	131	305	190	495
1957	256	123	389	68	74	142	334	197	531
1958	278	146	424	68	73	141	346	219	565
Saskatchewan.....1956	298	187	485	67	71	138	365	258	623
1957	310	196	506	70	72	142	380	268	648
1958	303	179	482	70	74	144	373	253	626
Alberta.....1956	623	278	901	103	112	215	726	390	1,116
1957	606	224	830	108	110	218	714	334	1,048
1958	695	231	926	110	109	219	805	340	1,145
British Columbia ¹ 1956	748	341	1,089	122	150	272	870	491	1,361
1957	914	378	1,292	124	152	276	1,038	530	1,568
1958	700	266	966	126	147	273	826	413	1,239
Canada ² 1956	5,299	2,720	8,019	1,082	1,337	2,419	6,381	4,057	10,438
1957	5,920	2,802	8,722	1,128	1,359	2,487	7,048	4,161	11,209
1958	5,992	2,531	8,523	1,147	1,357	2,504	7,139	3,888	11,027

¹ Includes the Yukon and Northwest Territories.

² Slight differences between these totals and those of Table 2 are caused by minor adjustments and rounding of figures.

Section 2.—The Construction Industry

Subsection 1.—Value of Construction Work Performed

Statistics of the construction industry are based largely on information received at the same time and from the same sources as the data on capital expenditures which appear in Section 1.* The data represent the estimated total value of all new and repair construction performed by contractors; labour forces of utility, manufacturing, mining and logging firms; and by government departments, home-owner builders and other persons or firms not primarily engaged in the construction industry.

Canada's intended construction program for 1958 is estimated at \$7,136,000,000, about 1.2 p.c. above the 1957 level. This contrasts with a rise in 1957 of more than 10 p.c. over 1956 and an increase of 20 p.c. in 1956 over 1955. New construction in 1958, estimated at \$5,991,000,000, is expected to account for most of the increase. The value of repairs to be undertaken in that year is estimated at \$1,145,000,000.

5.—Value of Construction Work Performed, Current and Constant (1949) Dollars, 1949-58

NOTE.—Actual expenditures 1949-56; preliminary actual 1957; intentions 1958.

(Millions of dollars)

Year	New		Repair		Total		Total Construction as Percentage of Gross National Product	
	Current	Constant	Current	Constant	Current	Constant	Current	Constant
1949.....	2,124	2,124	732	732	2,856	2,856	17.3	17.5
1950.....	2,366	2,247	766	727	3,132	2,974	17.2	17.2
1951.....	2,734	2,308	927	783	3,661	3,091	17.0	16.9
1952.....	3,282	2,616	916	730	4,198	3,346	18.0	17.1
1953.....	3,666	2,824	974	749	4,640	3,573	19.0	17.6
1954.....	3,700	2,852	1,023	787	4,723	3,639	19.6	18.5
1955.....	4,270	3,206	1,041	779	5,311	3,985	19.8	18.5
1956.....	5,300	3,799	1,082	776	6,382	4,575	21.1	19.4
1957.....	5,919	4,143	1,129	790	7,048	4,933	22.4	20.9
1958.....	5,991	..	1,145	..	7,136	..	..	..

Table 6, which compares contract construction with other construction, illustrates that contractors are accounting for a greater proportion of the work each year.

* An explanation of sources and methods is given in DBS annual report *Construction in Canada*.

6.—Value of Construction Work Performed by Contractors and Others, 1955-58

NOTE.—Actual expenditures 1955 and 1956; preliminary actual 1957; intentions 1958.

(Millions of dollars)

Item	1955	1956	1957	1958
Contract Construction	3,876	4,752	5,363	5,437
New.....	3,484	4,332	4,924	4,986
Repair.....	392	420	439	451
Other Construction¹	1,435	1,630	1,685	1,699
New.....	786	968	995	1,005
Repair.....	649	662	690	694
Totals, Construction	5,311	6,382	7,048	7,136
New.....	4,270	5,300	5,919	5,991
Repair.....	1,041	1,082	1,129	1,145

¹ Work done by the labour forces of utility, manufacturing, mining and logging firms and by government departments, home-owner builders and other persons or firms not primarily engaged in the construction industry.

7.—Value of Construction Work Performed, by Principal Type, 1955-58

NOTE.—Actual expenditures 1955 and 1956; preliminary actual 1957; intentions 1958.

(Millions of dollars)

Type of Construction	1955		1956		1957		1958	
	Value	P.C. of Total	Value	P.C. of Total	Value	P.C. of Total	Value	P.C. of Total
Building Construction	3,378	63.6	3,818	59.8	3,775	53.6	3,873	54.3
Residential.....	1,737	32.7	1,830	28.7	1,685	23.9	1,922	26.9
Industrial.....	398	7.5	604	9.5	617	8.8	423	5.9
Commercial.....	514	9.7	571	8.9	710	10.1	675	9.5
Institutional.....	464	8.7	455	7.1	503	7.1	576	8.1
Other.....	265	5.0	358	5.6	260	3.7	277	3.9
Engineering	1,933	36.4	2,564	40.2	3,273	46.4	3,263	45.7
Marine construction.....	76	1.4	118	1.8	157	2.2	155	2.2
Road, highway and aerodrome construction.....	519	9.8	618	9.7	742	10.5	740	10.4
Waterworks and sewage systems.....	149	2.8	184	2.9	202	2.9	261	3.7
Dams and irrigation.....	39	0.7	68	1.1	64	0.9	44	0.6
Electric power construction.....	338	6.4	455	7.1	564	8.0	565	7.9
Railway, telephone and telegraph construction.....	313	5.9	363	5.7	411	5.8	431	6.0
Gas and oil facilities.....	339	6.4	531	8.3	807	11.5	726	10.1
Other engineering construction.....	160	3.0	227	3.6	326	4.6	341	4.8
Totals, Construction	5,311	100.0	6,382	100.0	7,048	100.0	7,136	100.0

Shifts within the program of construction from 1956 to 1957 and from 1957 to 1958 are shown in Table 8.

8.—Dollar Change in Value of Construction Work Performed, by Type of Structure, 1956 to 1957 and 1957 to 1958

Type of Structure	Change 1956 to 1957	Change 1957 to 1958	Type of Structure	Change 1956 to 1957	Change 1957 to 1958
	\$'000,000	\$'000,000		\$'000,000	\$'000,000
Building Construction			Building Construction—concl.		
Residential	-145	237	Institutional	48	73
Dwellings, single, double, duplexes and apartments.....	-145	237	Schools and other educational buildings.....	49	19
Industrial	13	-194	Churches and other religious buildings.....	3	-5
Factories, plants, workshops, food canneries.....	-11	-134	Hospitals, sanatoria, clinics, first-aid stations, etc.....	4	49
Mine and mine mill buildings.....	21	-67	Other institutional buildings.....	-8	9
Railway stations, offices, road-way buildings.....	2	1	Other Building	-98	18
Railway shops, engine houses, water and fuel stations.....	1	6	Farm buildings (excluding dwellings).....	-14	2
Commercial	138	-35	Broadcasting, radio and television, relay and booster stations, telephone exchanges.....	-40	-2
Warehouses, storehouses, refrigerated storage, etc.....	-3	-5	Aeroplane hangars.....	1	3
Grain elevators.....	-1	10	Passenger terminals, bus, boat or air.....	-4	20
Hotels, clubs, restaurants, cafeterias, tourist cabins.....	22	-15	Armouries, barracks, drill halls, etc.....	-16	-3
Office buildings.....	66	11	Bunkhouses, dormitories, camp cookeries and camps.....	-11	-8
Stores, retail and wholesale.....	46	-22	Miscellaneous building.....	-14	4
Garages and service stations.....	—	-2			
Theatres, arenas, amusement and recreational buildings.....	7	-12	Totals, Building Construction	-43	98
Laundries and dry cleaning establishments.....	—	1			

8.—Dollar Change in Value of Construction Works Performed, by Type of Structure, 1956 to 1957 and 1957 to 1958—concluded

Type of Structure	Change 1956 to 1957	Change 1957 to 1958	Type of Structure	Change 1956 to 1957	Change 1957 to 1958
	\$'000,000	\$'000,000		\$'000,000	\$'000,000
Engineering Construction			Engineering Construction— concluded		
Marine	39	-2	Electric Power—concluded		
Docks, wharves, piers, break- waters.....	7	4	Power transmission and distri- bution lines, trolley wires.....	23	-5
Retaining walls, embankments, riprapping.....	1	2	Street lighting.....	1	—
Canals and waterways.....	41	-38	Railway, Telephone and Tele- graph	47	20
Dredging and pile driving.....	18	33	Railway tracks and roadbed....	31	1
Dykes.....	-18	—	Signals and interlockers.....	1	—
Logging booms.....	-1	-1	Telegraph and telephone lines, underground and marine cables	15	20
Other marine.....	-9	-2	Gas and Oil Facilities	276	-81
Road, Highway and Aerodrome	124	-2	Gas mains and services.....	29	8
Hard surfaced or paved streets, highways, parking lots, etc....	133	-8	Pumping stations, oil.....	9	-8
Gravel or stone streets, high- ways, roads, parking lots, etc.	-76	15	Pumping stations, gas.....	12	-16
Dirt, clay or other streets, roads, parking lots, etc.....	55	1	Oil storage tanks.....	3	-4
Grading, scraping, oiling, filling	-17	-4	Gas storage tanks.....	—	-1
Sidewalks, paths.....	4	1	Oil pipelines.....	44	52
Aerodromes, landing fields, run- ways, tarmac.....	24	-7	Gas pipelines.....	122	-130
Waterworks and Sewage Sys- tems	18	59	Oil wells.....	-14	—
Tile drains, drainage ditches, storm sewers.....	-3	-1	Gas wells.....	15	2
Water mains, hydrants and serv- ices.....	6	17	Oil refinery—processing units....	34	28
Sewage systems and connections.	18	38	Natural gas cleaning plants.....	24	-11
Pumping stations, water.....	-3	—	Other Engineering	98	15
Water storage tanks.....	—	4	Bridges, trestles, culverts, over- passes, viaducts.....	47	37
Dams and Irrigation	-3	-20	Tunnels and subways.....	40	7
Dams and reservoirs.....	-5	-22	Incinerators.....	12	-10
Irrigation and land reclamation projects.....	2	2	Park systems, landscaping, sod- ding, etc.....	2	5
Electric Power	110	—	Swimming pools, tennis courts, outdoor recreational facilities.	—	1
Electric power generating plants, including water conveying and controlling structures.....	79	2	Mine shafts and other below- surface workings.....	1	-21
Electric transformer stations....	7	2	Fences, snowsheds, signs, guard- rails.....	-3	1
			Miscellaneous engineering con- struction.....	-1	-4
			Totals, Engineering Construc- tion	709	-10
			Grand Totals, Construction	666	88

Table 9 gives estimates of total expenditures in Canada on each type of construction for which information is available. It contains the detailed data from which Tables 7 and 8 are derived.

9.—Value of Construction Work Performed, by Type of Structure, 1956-58

NOTE.—Actual expenditures 1956; preliminary actual 1957; intentions 1958.

Type of Structure	1956			1957			1958		
	New	Repair	Total	New	Repair	Total	New	Repair	Total
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Building Construction									
Residential	1,574,900	255,500	1,830,400	1,415,000	270,000	1,685,000	1,636,000	286,000	1,922,000
Dwellings, single, double, duplexes and apartments.....	1,574,900	255,500	1,830,400	1,415,000	270,000	1,685,000	1,636,000	286,000	1,922,000

9.—Value of Construction Work Performed, by Type of Structure, 1956-58—continued

Type of Structure	1956			1957			1958		
	New	Repair	Total	New	Repair	Total	New	Repair	Total
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Building Construction —concluded									
Industrial	487,422	116,655	604,077	501,397	115,821	617,218	309,588	113,134	422,722
Factories, plants, work-shops, etc.....	389,443	87,457	476,900	380,514	85,452	465,966	248,539	83,129	331,668
Mine and mine mill buildings.....	81,690	7,651	89,341	103,543	7,072	110,615	36,275	7,152	43,427
Railway stations, offices, roadway buildings.....	9,595	12,417	22,012	9,881	13,691	23,572	11,068	13,444	24,512
Railway shops, engine houses, water and fuel stations.....	6,694	9,130	15,824	7,459	9,606	17,065	13,706	9,409	23,115
Commercial	480,214	91,080	571,294	618,943	91,081	710,024	583,087	92,118	675,205
Warehouses, storehouses, refrigerated storage, etc	78,067	11,676	89,743	74,160	12,942	87,102	68,980	12,792	81,772
Grain elevators.....	12,785	5,912	18,697	12,154	5,950	18,104	21,373	6,440	27,813
Hotels, clubs, restaurants, cafeterias, tourist cabins.....	39,714	11,442	51,156	60,422	13,193	73,615	44,928	13,635	58,563
Office buildings.....	154,577	29,039	183,616	222,140	27,550	249,690	235,031	25,962	260,993
Stores, retail and wholesale.....	117,904	22,493	140,397	165,699	21,022	186,721	141,829	23,175	165,004
Garages and service stations.....	48,967	7,302	56,269	49,863	6,855	56,718	48,054	6,804	54,858
Theatres, arenas, amusement and recreational buildings.....	26,781	2,441	29,222	33,316	2,756	36,072	21,174	2,502	23,676
Laundries and dry cleaning establishments.....	1,419	775	2,194	1,189	813	2,002	1,718	808	2,526
Institutional	396,416	58,566	454,982	450,707	52,449	503,156	523,158	52,911	576,069
Schools and other educational buildings.....	206,243	23,644	229,887	254,220	24,634	278,854	271,389	26,706	298,095
Churches and other religious buildings.....	34,697	6,562	41,259	38,179	6,081	44,260	33,825	5,855	39,680
Hospitals, sanatoria, clinics, first-aid stations, etc.....	118,607	16,261	134,868	124,343	14,760	139,103	174,278	14,030	188,308
Other institutional buildings.....	36,869	12,099	48,968	33,965	6,974	40,939	43,666	6,320	49,986
Other Building	265,480	92,023	357,503	177,372	82,371	259,743	193,353	84,079	277,432
Farm buildings (excluding dwellings).....	91,740	65,718	157,458	84,107	59,607	143,714	85,522	60,259	145,781
Broadcasting, radio and television, relay and booster stations, telephone exchanges.....	85,099	2,127	87,226	46,026	1,523	47,549	43,892	1,632	45,524
Aeroplane hangars.....	7,438	1,861	9,299	7,694	2,152	9,846	11,394	1,896	13,290
Passenger terminals, bus, boat or air.....	4,431	122	4,553	404	119	523	20,748	236	20,984
Armouries, barracks, drill halls, etc.....	30,102	13,447	43,549	14,820	12,511	27,331	11,305	13,446	24,751
Bunkhouses, dormitories, camp cookeries, bush depots and camps.....	26,261	5,126	31,387	15,968	4,518	20,486	7,803	4,661	12,464
Other building.....	20,409	3,622	24,031	8,353	1,941	10,294	12,689	1,949	14,638
Totals, Building Construction	3,204,432	613,824	3,818,256	3,163,419	611,722	3,775,141	3,245,186	628,242	3,873,428
Engineering Construction									
Marine	103,222	14,348	117,570	144,139	12,534	156,673	142,903	12,050	154,953
Docks, wharves, piers, breakwaters.....	30,318	7,671	37,989	37,455	7,229	44,684	41,780	7,038	48,818
Retaining walls, embankments, riprapping.....	1,517	878	2,395	2,352	779	3,131	4,071	828	4,899
Canals and waterways.....	21,269	1,158	22,427	62,446	1,098	63,544	24,669	1,179	25,848
Dredging and pile driving.....	18,777	2,070	20,847	37,749	1,535	39,284	70,907	1,127	72,034
Dykes.....	17,563	233	17,796	7	138	145	22	150	172
Logging booms.....	1,613	1,006	2,619	716	904	1,620	275	751	1,026
Other marine.....	12,165	1,332	13,497	3,414	851	4,265	1,179	977	2,156

9.—Value of Construction Work Performed, by Type of Structure, 1956-58—continued

Type of Structure	1956			1957			1958		
	New	Repair	Total	New	Repair	Total	New	Repair	Total
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Engineering Construction—continued									
Road, Highway and Aerodrome.....	457,991	160,047	618,038	554,920	186,853	741,773	557,221	182,460	739,681
Hard surfaced or paved streets, highways, parking lots, etc.....	244,598	59,554	304,152	341,555	95,820	437,375	339,066	90,596	429,662
Gravel or stone streets, highways, roads, parking lots, etc.....	128,042	71,766	199,808	63,084	60,454	123,538	77,493	61,000	138,493
Dirt, clay or other streets, roads, parking lots, etc.....	33,992	20,429	54,421	86,661	23,220	109,881	87,543	23,126	110,669
Grading, scraping, oiling, filling.....	25,533	4,517	30,050	10,438	3,037	13,475	6,598	3,143	9,741
Sidewalks, paths.....	13,366	3,082	16,448	16,491	3,654	20,145	16,858	3,911	20,769
Aerodromes, landing fields, runways, tarmac	12,460	699	13,159	36,691	668	37,359	29,663	684	30,347
Waterworks and Sewage	158,518	25,595	184,113	174,234	27,976	202,210	231,793	28,944	260,737
Tile drains, drainage ditches, storm sewers..	15,221	6,111	21,332	11,155	6,952	18,107	10,539	7,034	17,573
Water mains, hydrants and services.....	58,264	13,080	71,344	63,883	13,793	77,676	80,238	14,585	94,823
Sewage systems and connections.....	72,083	5,428	77,511	89,359	6,254	95,613	127,327	6,132	133,459
Pumping stations, water	10,900	911	11,811	7,821	857	8,678	7,738	743	8,481
Water storage tanks.....	2,050	65	2,115	2,016	120	2,136	5,951	450	6,401
Dams and Irrigation...	62,753	4,794	67,547	58,963	5,325	64,308	39,128	5,280	44,408
Dams and reservoirs...	49,152	2,054	51,206	43,871	2,562	46,433	21,742	2,298	24,040
Irrigation and land reclamation projects.....	13,601	2,740	16,341	15,112	2,763	17,875	17,386	2,982	20,368
Electric Power.....	414,958	39,603	454,561	523,322	40,975	564,297	521,282	43,410	564,692
Electric power generating plants, including water conveying and controlling structures..	203,540	8,495	212,035	282,452	8,417	290,869	284,695	8,424	293,119
Electric transformer stations.....	40,076	4,076	44,152	46,752	4,896	51,648	48,898	5,230	54,128
Power transmission and distribution lines, trolley wires.....	165,593	24,147	189,740	187,650	24,762	212,412	180,999	26,824	207,823
Street lighting.....	5,749	2,885	8,634	6,468	2,900	9,368	6,690	2,932	9,622
Railway, Telephone and Telegraph.....	215,358	148,043	363,401	247,675	162,753	410,428	268,877	161,942	430,819
Railway tracks and roadbed.....	121,788	111,191	232,979	140,150	123,787	263,937	143,698	121,090	264,788
Signals and interlockers.	4,842	5,033	9,875	5,078	5,589	10,667	4,987	5,416	10,403
Telegraph and telephone lines, underground and marine cables.....	88,728	31,819	120,547	102,447	33,377	135,824	120,192	35,436	155,628
Gas and Oil Facilities..	499,021	32,468	531,489	772,877	34,431	807,308	690,644	35,639	726,283
Gas mains and services.	35,712	2,760	38,472	64,508	2,634	67,142	73,232	2,050	75,282
Pumping stations, oil...	5,797	1,278	7,075	14,003	1,710	15,713	5,761	1,740	7,501
Pumping stations, gas...	4,682	94	4,776	16,616	63	16,679	118	165	283
Oil storage tanks.....	18,866	1,541	20,407	21,789	1,497	23,286	17,800	1,404	19,204
Gas storage tanks.....	2,889	561	3,450	2,411	591	3,002	1,510	763	2,263
Oil pipelines.....	32,184	1,141	33,325	75,424	1,476	76,900	127,230	1,462	128,692
Gas pipelines.....	132,251	642	132,893	254,740	298	255,038	124,897	562	125,459
Oil wells.....	186,807	4,285	191,092	171,789	5,463	177,252	171,077	5,779	176,856
Gas wells.....	11,395	217	11,612	25,832	553	26,385	27,929	320	28,249
Oil refinery—processing units.....	56,898	19,759	76,657	90,675	19,567	110,242	117,807	20,068	137,875
Natural gas cleaning plants.....	11,540	190	11,730	35,090	579	35,669	23,283	1,336	24,619

9.—Value of Construction Work Performed, by Type of Structure, 1956-58—concluded

Type of Structure	1956			1957			1958		
	New	Repair	Total	New	Repair	Total	New	Repair	Total
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Engineering Construction—concluded									
Other Engineering	183,816	43,565	227,381	279,834	45,997	325,831	294,287	46,851	341,138
Bridges, trestles, culverts, overpasses, viaducts.....	97,733	24,272	122,005	144,796	24,144	168,940	181,603	24,410	206,013
Tunnels and subways.....	3,041	299	3,340	42,844	429	43,273	49,067	758	49,825
Incinerators.....	4,503	278	4,781	16,787	276	17,063	7,206	302	7,508
Park systems, landscaping, sodding, etc.....	3,958	2,983	6,941	6,153	3,247	9,400	11,192	3,347	14,539
Swimming pools, tennis courts, outdoor recreation facilities.....	1,842	531	2,373	1,604	457	2,061	2,274	449	2,723
Mine shafts and other below surface workings	45,508	2,328	47,836	45,895	3,047	48,942	25,015	3,313	28,328
Fences, snowsheds, signs, guard-rails.....	8,579	10,102	18,681	7,036	8,662	15,698	7,472	8,728	16,200
Other engineering.....	18,652	2,772	21,424	14,739	5,735	20,474	10,458	5,544	16,002
Totals, Engineering Construction	2,095,637	468,463	2,564,100	2,755,984	516,844	3,272,828	2,746,135	516,576	3,262,711^a
Totals, All Construction	5,300,069	1,082,287	6,382,356	5,919,403	1,128,566	7,047,969	5,991,321	1,144,818	7,136,139

Principal statistics of the construction industry are shown by province and for contractors, utilities, governments and others in Table 10. The statistics given for Canada as a whole may be considered as relatively accurate but those for individual provinces and by class of builder are approximations only. All estimates given for cost of materials used are based on ratios of this item to total value of work performed, derived from annual surveys of construction work and applied to the total value-of-work figures. Estimates of labour content are similarly based but in addition are adjusted to include working owners and partners and their withdrawals. Although the ratios were calculated in some detail by type of industry, still further refinements are required. There are also some difficulties in obtaining the precise location of projects undertaken or to be undertaken by large companies operating in a number of provinces. However, if used with these qualifications in mind, the table provides useful estimates.

10.—Labour Content, Cost of Materials and Value of Work Performed In Construction, by Province and by Employer, 1954-58

NOTE.—Actual expenditures 1954-56; preliminary actual 1957; intentions 1958.

Province and Year		Labour Content		Cost of Materials Used	Value of Work Performed
		Number	Value		
Province			\$'000	\$'000	\$'000
Newfoundland.....	1954	9,778	26,639	30,702	67,372
	1955	10,045	28,393	35,796	77,659
	1956	11,018	34,851	32,342	82,300
	1957	10,605	34,621	32,869	81,800
	1958	11,793	38,643	36,134	91,200

10.—Labour Content, Cost of Materials and Value of Work Performed in Construction, by Province and by Employer, 1954-58—continued

Province and Year	Labour Content		Cost of Materials Used	Value of Work Performed
	Number	Value		
		\$'000	\$'000	\$'000
Province—concluded				
Prince Edward Island.....	1954	2,245	4,921	5,900
	1955	2,418	5,359	7,249
	1956	2,248	6,441	9,070
	1957	1,899	5,790	8,067
	1958	2,353	7,105	10,072
Nova Scotia.....	1954	19,049	49,791	62,510
	1955	17,993	48,278	70,308
	1956	19,515	56,796	76,961
	1957	18,040	53,689	72,798
	1958	20,540	62,655	87,454
New Brunswick.....	1954	14,897	38,476	59,795
	1955	19,539	52,249	73,463
	1956	20,130	57,775	89,691
	1957	17,402	51,633	78,008
	1958	18,065	53,665	81,291
Quebec.....	1954	135,102	415,441	559,341
	1955	132,566	419,834	652,895
	1956	146,243	487,400	773,353
	1957	147,994	531,206	836,968
	1958	145,869	521,817	826,669
Ontario.....	1954	183,134	611,897	792,362
	1955	187,914	650,722	898,727
	1956	194,953	730,372	1,058,371
	1957	210,045	858,019	1,230,250
	1958	224,508	915,028	1,322,487
Manitoba.....	1954	27,381	83,796	116,945
	1955	29,275	90,679	123,789
	1956	31,200	104,174	146,596
	1957	30,819	116,769	156,020
	1958	32,153	120,863	162,967
Saskatchewan.....	1954	30,656	100,784	125,626
	1955	27,556	91,677	131,271
	1956	29,636	109,793	168,463
	1957	27,684	113,473	176,628
	1958	27,285	111,173	175,193
Alberta.....	1954	50,934	172,931	247,360
	1955	52,641	187,267	284,492
	1956	59,688	223,992	322,347
	1957	60,170	221,744	312,631
	1958	67,923	250,599	353,975
British Columbia.....	1954	45,010	175,456	194,269
	1955	54,071	212,861	262,924
	1956	71,356	304,212	397,645
	1957	78,800	363,755	471,120
	1958	63,578	289,191	382,140
Totals.....	1954	518,186	1,680,132	2,194,810
	1955	534,018	1,787,319	2,540,914
	1956	585,987	2,115,806	3,074,839
	1957	603,458	2,350,699	3,375,359
	1958	614,067	2,370,739	3,438,382
				4,723,367
				5,310,629
				6,381,700
				7,048,300
				7,136,700

10.—Labour Content, Cost of Materials and Value of Work Performed in Construction, by Province and by Employer, 1954-58—concluded

Employer and Year	Labour Content		Cost of Materials Used	Value of Work Performed
	Number	Value		
		\$'000	\$'000	\$'000
Employer				
Contractors.....	1954	321,525	1,101,370	1,599,498
	1955	343,322	1,213,022	1,867,575
	1956	389,119	1,477,616	2,328,558
	1957	407,429	1,668,491	2,606,568
	1958	414,427	1,682,022	2,665,821
Utilities.....	1954	77,137	243,910	244,013
	1955	75,707	239,877	305,097
	1956	76,601	271,271	353,771
	1957	74,855	289,072	363,471
	1958	77,506	296,906	373,864
Governments.....	1954	68,724	179,767	141,983
	1955	61,176	167,492	131,285
	1956	65,698	191,629	138,478
	1957	70,103	218,164	158,398
	1958	73,854	229,620	165,304
Others.....	1954	50,800	155,085	209,316
	1955	53,813	106,928	236,957
	1956	54,569	175,290	254,032
	1957	51,071	174,972	246,922
	1958	48,280	162,191	233,393

Subsection 2.—Contracts Awarded and Building Permits Issued

In this Subsection statistics are given of work actually in sight either as contracts awarded or as building permits. These figures are related to those of work performed during the year only so far as the work thus provided for is completed and duly reported in the capital expenditure surveys. Further, values of contracts awarded, and especially of building permits, are estimates (more often under-estimates) of work to be done.

11.—Value of Construction Contracts Awarded, 1923-58

(SOURCE: *Hugh C. MacLean Building Reports*)

Year	Value of Construction Contracts	Year	Value of Construction Contracts	Year	Value of Construction Contracts
	\$		\$		\$
1923.....	314,254,300	1935.....	160,305,000	1947.....	718,137,100
1924.....	276,281,100	1936.....	162,588,000	1948.....	954,082,400
1925.....	297,973,000	1937.....	224,056,700	1949 ¹	1,143,547,300
1926.....	372,947,900	1938.....	187,277,900	1950.....	1,525,764,700
1927.....	418,951,600	1939.....	187,178,500	1951.....	2,295,499,200
1928.....	472,032,600	1940.....	346,009,800	1952.....	1,812,177,600
1929.....	576,651,800	1941.....	393,991,300	1953.....	2,017,060,700
1930.....	456,999,600	1942.....	281,594,100	1954.....	2,154,959,200
1931.....	315,482,000	1943.....	206,103,900	1955.....	3,183,592,000
1932.....	132,872,400	1944.....	291,961,800	1956.....	3,426,905,500
1933.....	97,289,800	1945.....	409,032,700	1957.....	2,894,168,100
1934.....	125,811,500	1946.....	663,355,100	1958.....	3,593,709,200

¹ Newfoundland included from Apr. 1, 1949.

12.—Value of Construction Contracts Awarded, by Province and Type of Construction, 1953-58

(SOURCE: Hugh C. MacLean Building Reports)

Province or Type of Construction	1953	1954	1955	1956	1957	1958
	\$	\$	\$	\$	\$	\$
Newfoundland.....	8,549,700	12,253,700	39,140,200	41,326,300	34,572,000	35,448,500
Prince Edward Island...	1,254,300	3,899,500	3,157,600	5,482,600	5,941,700	10,156,200
Nova Scotia.....	54,355,800	71,841,400	55,259,600	51,178,300	54,310,200	105,047,700
New Brunswick.....	28,602,000	46,225,300	100,127,200	62,761,900	55,612,500	141,119,900
Quebec.....	539,818,600	538,079,200	773,843,900	988,138,800	703,724,800	1,042,854,900
Ontario.....	849,812,400	939,746,400	1,300,287,700	1,427,821,300	1,312,420,300	1,489,593,500
Manitoba.....	80,455,700	119,828,600	97,164,600	111,525,100	186,553,100	124,836,300
Saskatchewan.....	75,724,400	76,375,200	63,037,200	100,791,700	81,310,200	117,024,800
Alberta.....	215,010,900	219,205,000	230,309,700	275,613,000	179,230,000	257,745,400
British Columbia.....	163,476,900	127,504,900	516,264,300	362,265,500	280,463,300	269,782,000
Totals.....	2,017,060,700	2,154,959,200	3,183,592,000	3,426,905,500	2,894,168,100	3,593,709,200
Residential.....	732,759,300	900,016,800	1,216,425,100	1,077,408,600	877,710,400	1,413,219,900
Apartments.....	130,462,400	151,316,400	179,720,400	160,885,200	192,748,900	344,517,800
Residences.....	602,296,900	748,700,400	1,036,704,700	916,523,400	684,961,500	1,068,702,100
Business.....	613,809,700	694,972,400	761,162,800	828,877,800	795,683,900	1,125,394,400
Churches.....	32,009,200	44,540,900	37,759,300	40,584,600	40,685,200	48,624,100
Public garages.....	17,298,400	20,798,400	25,748,900	24,983,100	23,120,900	22,011,700
Hospitals.....	69,047,600	62,883,500	77,604,400	63,320,000	72,138,200	107,918,500
Hotels and clubs.....	32,399,800	39,171,000	93,955,400	66,664,200	55,548,300	72,590,700
Office buildings.....	78,035,900	81,715,500	99,842,900	132,488,900	130,124,600	230,816,500
Public buildings.....	111,235,600	120,018,500	102,191,400	108,245,900	92,490,400	139,151,400
Schools.....	119,009,200	169,059,600	174,686,800	205,232,200	232,539,500	252,131,000
Stores.....	81,197,300	76,592,300	93,939,200	92,316,600	62,614,600	160,094,100
Theatres.....	3,075,300	3,069,400	2,221,800	1,617,000	958,500	10,406,400
Warehouses.....	70,501,400	77,123,300	53,212,700	93,425,300	85,463,700	81,650,000
Industrial.....	230,925,800	169,650,100	386,410,300	455,579,200	398,378,200	248,764,000
Engineering.....	439,565,900	390,319,900	819,593,800	1,065,039,900	822,395,600	806,330,900
Bridges.....	14,858,700	21,219,300	47,147,300	73,365,500	96,531,700	69,360,100
Marine construction.....	63,592,100	30,649,100	106,319,200	148,134,800	96,968,800	61,649,200
Sewerage and water-works.....	46,385,500	59,394,600	70,341,900	113,732,900	94,506,500	131,365,000
Roads and streets.....	97,964,200	113,919,500	176,164,600	299,318,200	287,061,400	261,771,600
Power and communica-tions.....	181,420,400	41,015,800	149,696,000	315,651,500	104,665,600	82,664,700
Miscellaneous engineer-ing.....	35,345,000	124,121,600	269,924,800	114,836,000	142,661,600	199,520,300

Building Permits.—The estimated value of proposed construction as indicated by building permits issued in 204 municipalities in 1957 amounted to \$1,307,151,000 as compared with \$1,318,927,000 in 1956 and \$1,310,124,000 in 1955.

13.—Estimated Value of Proposed Construction as Indicated by Building Permits Issued in 204 Municipalities, 1956 and 1957

Province and Municipality	1956	1957	Province and Municipality	1956	1957
	\$'000	\$'000		\$'000	\$'000
Prince Edward Island—			Nova Scotia—concluded		
Charlottetown.....	1,157	569	Liverpool.....	233	192
Nova Scotia—			New Glasgow.....	..	517
Amherst.....	434	534	New Waterford.....	170	140
Bridgewater.....	326	220	North Sydney.....	289	193
Dartmouth.....	3,232	1,810	Sydney.....	980	1,609
Glace Bay.....	130	290	Sydney Mines.....	76	67
Halifax.....	11,694	7,478	Truro.....	1,310	1,978
			Yarmouth.....	172	380

13.—Estimated Value of Proposed Construction as Indicated by Building Permits Issued in 204 Municipalities, 1956 and 1957—continued

Province and Municipality	1956	1957	Province and Municipality	1956	1957
	\$'000	\$'000		\$'000	\$'000
New Brunswick—			Ontario—continued		
Campbellton.....	1,057	239	Cobourg.....	1,555	695
Chatham.....	1,488	193	Cochrane.....	271	273
Dalhousie.....	269	228	Collingwood.....	495	451
Fredericton.....	4,230	3,868	Cornwall.....	1,775	5,479
Moncton.....	6,871	5,515	Dundas.....	1,482	1,259
Newcastle.....	702	1,186	Eastview.....	3,889	2,525
Saint John.....	4,018	7,515	Etobicoke Twp.....	68,621	56,729
St. Stephen.....	484	160	Forest Hill.....	2,038	1,702
			Fort Erie.....	769	925
Quebec—			Fort Frances.....	925	1,173
Cap de la Madeleine.....	3,782	1,911	Fort William.....	12,130	5,589
Chicoutimi.....	4,095	28,639	Galt.....	3,361	2,832
Coaticook.....	167	284	Gananoque.....	712	210
Drummondville.....	2,319	1,762	Gloucester Twp.....	3,570	6,798
Granby.....	2,752	1,979	Goderich.....	695	201
Grand'Mère.....	3,043	1,437	Guelph.....	5,547	4,071
Hampstead.....	596	150	Haileybury.....	206	1,017
Hull.....	5,016	5,740	Hamilton.....	35,675	39,385
Iberville.....	801	399	Hanover.....	163	228
Joliette.....	1,675	1,416	Hawkesbury.....	360	980
Jonquière.....	3,443	1,538	Huntsville.....	115	90
Lachine.....	10,126	4,421	Ingersoll.....	835	555
Laprairie.....	696	1,651	Kapuskasing.....	721	528
La Tuque.....	2,302	954	Kenora.....	1,132	1,132
Lévis.....	1,113	2,073	Kingston.....	7,856	9,808
Longueuil.....	2,022	1,007	Kirkland Lake (Peck Twp.).....	269	508
Mégantic.....	317	162	Kitchener.....	14,639	9,229
Montreal (Maisonnette).....	161,218	129,922	Leamington.....	971	1,237
Montreal East.....	7,034	3,599	Leaside.....	2,100	911
Montreal North.....	9,117	9,213	Lindsay.....	705	954
Montreal West.....	1,448	2,029	Listowel.....	247	134
Mount Royal.....	6,548	3,411	London.....	8,487	7,345
Noranda.....	872	1,086	Long Branch.....	2,151	1,385
Outremont.....	1,012	5,356	Napanee.....	256	211
Pointe aux Trembles.....	2,611	3,581	Nepean Twp.....	4,814	4,886
Pointe Claire.....	7,247	6,098	New Liskeard.....	759	730
Quebec.....	8,656	15,910	Newmarket.....	1,326	1,254
Rimouski.....	2,460	3,598	New Toronto.....	1,757	3,637
Rivière du Loup.....	526	668	Niagara Falls.....	3,389	1,123
Rouyn.....	911	1,586	North Bay.....	4,051	3,621
Ste. Agathe des Monts.....	321	242	North York Twp.....	78,276	76,645
Ste. Anne de Bellevue.....	561	514	Oakville.....	1,315	2,091
St. Hyacinthe.....	2,676	1,170	Orillia.....	1,119	1,575
St. Jean.....	5,525	4,636	Oshawa.....	10,192	12,941
St. Jérôme.....	2,789	2,086	Ottawa.....	57,514	74,356
St. Joseph d'Alma.....	2,775	1,915	Owen Sound.....	2,615	1,282
St. Lambert.....	2,170	2,523	Paris.....	227	294
St. Laurent.....	15,709	16,721	Parry Sound.....	574	533
Shawinigan Falls.....	3,191	1,449	Pembroke.....	2,276	1,904
Sherbrooke.....	5,803	3,850	Perth.....	241	248
Sorel.....	676	1,166	Peterborough.....	5,418	6,576
Trois Rivières.....	6,163	4,751	Petrolia.....	467	142
Val d'Or.....	438	544	Port Arthur.....	5,090	7,104
Valleyfield.....	4,384	4,473	Port Colborne.....	1,709	1,995
Verdun.....	2,630	1,367	Preston.....	2,162	1,129
Westmount.....	2,318	5,111	Renfrew.....	1,389	898
			Riverside.....	4,296	3,164
Ontario—			St. Catharines.....	4,507	4,139
Amherstburg.....	623	1,155	St. Mary's.....	116	1,341
Barrie.....	4,948	4,720	St. Thomas.....	1,847	2,227
Belleville.....	1,336	2,879	Sarnia.....	7,603	6,234
Bowmanville.....	917	441	Sault Ste. Marie.....	9,049	7,952
Bracebridge.....	379	165	Scarborough Twp.....	60,234	57,586
Brampton.....	3,008	4,874	Simcoe.....	1,457	1,037
Brantford.....	4,567	6,705	Smith's Falls.....	192	584
Brockville.....	2,178	3,318	Stratford.....	2,143	2,805
Burlington.....	2,186	2,020	Sudbury.....	6,470	3,846
Campbellford.....	140	121	Swansea.....	2,323	900
Chatham.....	2,809	2,491	Tillsonburg.....	814	910
			Timmins.....	798	842
			Toronto.....	87,473	120,722
			Trenton.....	1,442	1,509

13.—Estimated Value of Proposed Construction as Indicated by Building Permits Issued in 204 Municipalities, 1956 and 1957—concluded

Province and Municipality	1956	1957	Province and Municipality	1956	1957
	\$'000	\$'000		\$'000	\$'000
Ontario—concluded			Saskatchewan—concluded		
Wallaceburg.....	720	921	Swift Current.....	2,141	2,886
Waterloo.....	4,672	2,713	Weyburn.....	984	2,748
Welland.....	2,250	1,829	Yorkton.....	1,617	844
Weston.....	1,326	1,343			
Whitby.....	1,814	4,884	Alberta—		
Windsor.....	11,862	9,535	Calgary.....	58,960	56,014
Woodstock.....	3,271	2,485	Drumheller.....	175	184
York Twp.....	15,040	12,346	Edmonton.....	69,404	64,379
York East Twp.....	3,511	8,059	Lethbridge.....	7,001	4,655
			Medicine Hat.....	4,473	3,188
Manitoba—			British Columbia—		
Brandon.....	3,882	3,379	Chilliwack.....	1,056	989
Brooklands.....	267	348	Cranbrook.....	471	641
Dauphin.....	551	365	Fernie.....	49	104
North Kildonan.....	650	555	Kamloops.....	2,591	1,324
Portage la Prairie.....	713	449	Kelowna.....	2,222	1,602
St. Boniface.....	9,914	3,134	Nanaimo.....	3,097	2,739
Selkirk.....	1,040	794	Nelson.....	794	2,534
The Pas.....	267	506	New Westminster.....	3,466	4,300
Transcona.....	2,998	2,958	North Vancouver.....	3,570	2,944
Winnipeg.....	29,499	34,005	Prince George.....	4,996	374
			Prince Rupert.....	718	2,138
Saskatchewan—			Revelstoke.....	268	157
Biggar.....	153	49	Rossland.....	119	95
Estevan.....	2,439	3,155	Trail.....	634	483
Melville.....	123	196	Vancouver.....	64,685	56,255
Moose Jaw.....	3,247	2,698	Vernon.....	2,442	1,620
North Battleford.....	1,455	1,820	Victoria.....	6,672	5,414
Prince Albert.....	3,061	2,954			
Regina.....	18,368	20,650	Totals, 204 Municipalities	1,318,927	1,307,151
Saskatoon.....	16,605	21,753			

Table 14 shows the value of building permits issued in 14 metropolitan areas across Canada. In 1957 the permits issued in these areas made up 93 p.c. of the total for the 204 municipalities.

14.—Estimated Value of Building Permits Issued in Metropolitan Areas, 1956 and 1957

Metropolitan Area	1956	1957	Metropolitan Area	1956	1957
	\$'000	\$'000		\$'000	\$'000
Halifax.....	14,920	9,288	Windsor.....	28,504	21,137
Saint John.....	4,045	7,535	London.....	21,768	21,620
Quebec.....	26,253	35,070	Winnipeg.....	64,074	63,738
Montreal.....	268,902	249,209	Calgary.....	64,077	60,144
Ottawa-Hull.....	79,333	97,241	Edmonton.....	81,673	75,958
Toronto.....	326,875	344,230	Vancouver.....	138,183	148,652
Hamilton.....	61,655	66,150	Victoria.....	15,999	17,478

Tables 15 and 16 show the value and volume of building permits by province. These figures are useful when appraising the construction activity within and among municipalities. Comparisons of construction costs would not be warranted, however, without assurance that structures of similar size and quality were being compared. Despite limited application, this information constitutes one of the few indices of current economic activity in smaller localities.

The relative material was compiled from municipal figures and therefore varies with the terms of individual by-laws, with the methods of estimating the value of local construction and with other factors which may differ from area to area. Information is not available on the permits allowed to lapse without the relative construction being undertaken.

15.—Number of Dwelling Units Covered by Building Permits, by Province, 1953-57

Province and Year	Apart-ments	Other	Total	Province and Year	Apart-ments	Other	Total
Newfoundland.....1953	27	546	573	Manitoba.....1953	685	4,585	5,270
1954	59	486	545	1954	883	4,187	5,070
1955	12	556	568	1955	1,150	4,516	6,666
1956	71	479	550	1956	415	3,584	3,999
1957	5	320	325	1957	381	2,685	3,066
Prince Edward Island...1953	13	40	53	Saskatchewan.....1953	266	3,753	4,019
1954	9	54	63	1954	248	2,912	3,160
1955	14	67	71	1955	462	3,143	3,605
1956	9	42	51	1956	327	2,691	3,018
1957	9	34	43	1957	452	3,085	3,537
Nova Scotia.....1953	943	849	1,792	Alberta.....1953	1,983	8,139	10,122
1954	195	834	1,029	1954	1,353	6,813	8,166
1955	393	777	1,170	1955	738	8,921	9,659
1956	337	791	1,128	1956	641	8,726	9,367
1957	342	588	930	1957	1,061	8,646	9,707
New Brunswick.....1953	123	651	774	British Columbia.....1953	2,124	9,899	12,023
1954	120	508	628	1954	1,855	11,173	13,028
1955	164	635	799	1955	3,134	12,753	15,887
1956	137	824	961	1956	2,897	11,410	14,307
1957	33	559	592	1957	2,318	10,889	13,207
Quebec.....1953	7,392	19,142	26,534	Canada ¹ 1953	22,554	82,394	104,948
1954	7,053	18,070	25,123	1954	24,229	81,401	105,630
1955	11,083	19,049	30,132	1955	25,376	93,685	119,061
1956	8,028	18,370	26,398	1956	23,573	80,058	103,631
1957	13,957	12,191	26,148	1957	30,516	71,259	101,775
Ontario.....1953	9,092	34,836	43,928				
1954	12,592	36,221	48,813				
1955	8,355	43,491	51,846				
1956	10,711	33,157	43,868				
1957	11,958	32,262	44,220				

¹ Provincial totals do not add to the Canada totals because certain minor adjustments could not be distributed provincially.

16.—Value of Building Permits Issued, by Province, 1953-57

Province and Year	Residential Construction			Non-residential Construction				Total
	New	Repair	Total	Industrial	Com-mercial	Institu-tional and Govern-ment	Other	
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Newfoundland.....1953	3,736	676	4,412	1,017	737	662	3	6,831
1954	4,141	648	4,789	1,256	1,389	449	4	7,887
1955	4,565	743	5,308	483	1,965	1,077	19	8,852
1956	4,490	742	5,232	446	1,307	1,961	28	8,974
1957	2,727	762	3,489	410	1,662	3,540	19	9,120
Prince Edward Is.....1953	286	58	344	92	91	75	—	602
1954	409	39	448	73	672	508	—	1,701
1955	520	61	581	240	775	2,584	—	4,180
1956	398	51	449	25	149	725	—	1,848
1957	336	30	366	24	393	72	—	855

16.—Value of Building Permits Issued, by Province, 1953-57—concluded

Province and Year	Residential Construction			Non-residential Construction				Total
	New	Repair	Total	Industrial	Com- mercial	Institu- tional and Govern- ment	Other	
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Nova Scotia.....1953	9,666	1,656	11,322	3,906	3,466	4,830	13	23,537
1954	6,760	1,424	8,184	1,617	5,180	3,330	46	18,357
1955	8,142	1,494	9,636	1,398	3,358	5,325	40	19,757
1956	8,166	1,730	9,896	2,574	6,490	3,911	37	22,908
1957	6,374	1,080	7,454	1,765	4,514	3,972	19	17,724
New Brunswick.....1953	5,681	1,257	6,938	1,914	3,058	5,059	1	16,970
1954	4,237	1,056	5,293	1,339	2,143	6,715	16	15,511
1955	5,523	1,364	6,887	1,815	3,949	8,583	43	21,277
1956	7,958	1,661	9,619	1,775	4,408	6,190	1	21,993
1957	5,713	1,321	7,034	2,390	4,060	8,940	133	22,557
Quebec.....1953	160,325	11,502	171,827	41,692	30,931	53,699	834	298,983
1954	163,891	13,665	177,556	32,463	28,998	62,011	702	301,730
1955	191,517	15,126	206,643	38,131	50,118	88,126	864	383,882
1956	187,636	16,069	203,705	53,043	69,922	70,548	1,122	398,340
1957	185,410	12,300	197,710	62,104	52,802	77,052	1,006	390,674
Ontario.....1953	350,484	24,373	374,857	111,940	95,877	82,288	4,813	669,775
1954	419,499	22,933	442,432	93,388	86,902	100,767	6,449	729,938
1955	474,454	24,849	499,303	79,078	117,139	96,425	8,648	800,593
1956	425,498	29,375	454,873	100,998	120,350	127,691	6,113	810,225
1957	419,572	24,991	444,563	95,880	158,772	126,455	2,946	828,616
Manitoba.....1953	34,992	2,262	37,254	5,612	6,417	5,376	80	54,739
1954	39,922	2,076	41,998	8,958	7,545	17,109	133	75,743
1955	46,835	2,758	49,593	12,905	10,796	26,736	76	100,106
1956	38,130	2,707	40,837	5,151	15,238	14,039	205	75,470
1957	27,517	2,577	30,094	9,463	23,249	11,523	96	74,425
Saskatchewan.....1953	31,565	2,916	34,481	6,446	7,882	15,105	143	64,057
1954	24,930	2,255	27,185	8,201	6,514	13,654	118	55,672
1955	29,615	2,257	31,872	4,252	7,668	13,911	101	57,804
1956	26,923	2,360	29,283	4,216	9,884	10,073	173	53,629
1957	33,239	2,482	35,721	5,132	11,716	13,086	113	65,768
Alberta.....1953	78,175	5,544	83,629	14,149	17,024	19,587	541	134,930
1954	68,126	5,062	73,188	12,378	29,091	32,418	605	147,680
1955	83,403	5,488	88,891	26,415	29,561	31,080	621	176,568
1956	84,388	6,562	90,950	17,559	44,920	34,060	615	188,104
1957	89,526	4,868	94,394	9,865	33,890	34,167	535	172,851
British Columbia....1953	75,990	7,697	83,687	13,967	25,037	25,907	1,269	149,867
1954	93,221	7,973	101,194	15,645	18,048	27,742	2,291	164,920
1955	122,425	8,684	131,109	30,768	28,280	36,021	3,213	229,391
1956	118,493	10,185	128,678	35,817	53,559	27,162	1,880	247,096
1957	121,209	10,363	131,572	31,536	50,554	30,192	847	244,701
Canada ¹ 1953	751,724	58,002	809,726	200,782	190,919	213,261	7,697	1,422,385
1954	826,227	57,295	883,522	175,675	186,540	265,083	10,365	1,521,185
1955	968,025	62,937	1,030,962	195,735	253,544	310,746	13,619	1,804,606
1956	902,084	71,438	973,522	221,601	326,227	296,359	10,171	1,827,880
1957	891,623	60,774	952,397	218,569	341,612	308,999	5,714	1,827,291

¹ Provincial totals do not add to the Canada totals because of rounding of the figures and because certain minor adjustments could not be distributed provincially.

The indexes given in Table 17 show as far as possible the fluctuations in building costs and their effect upon construction work and employment. The relative proportions of material and wage costs in general building are difficult to determine since such proportions vary with the type of building and the centres studied.

17.—Value of Building Permits Issued in 204 Municipalities and Index Numbers of the Building Construction Industries, 1948-57

Year	Value of Building Permits, 204 Municipalities	Average Index Numbers (1949=100)			
		Prices of Building Materials		Wage Rates in Construction Industries ¹	Employment in Building Construction ²
		Residential	Non-residential		
	\$'000				
1948.....	536,058	95.4	95.9	95.7	91.4
1949.....	616,161	100.0	100.0	100.0	100.0
1950.....	801,765	106.4	105.0	104.8	104.7
1951.....	681,162	125.5	118.6	119.2 ²	116.0
1952.....	802,738	124.9	123.2	129.5 ²	127.1
1953.....	1,088,880	123.9	124.4	137.2 ²	128.2
1954.....	1,151,087	121.7	121.8	141.1 ²	115.8
1955.....	1,310,124	124.3	123.4	146.6 ²	117.4
1956.....	1,318,927	128.5	128.0	152.4 ²	138.7
1957.....	1,307,151	128.4	130.0	162.9	145.5

¹ Compiled by the Department of Labour.² As reported by employers with 15 and more employees.

Section 3.—Housing*

Subsection 1.—Government Aid to House-Building

Federal Government Assistance.—The Federal Government's main activities in the housing field are defined by the National Housing Act, 1954, and subsequent amendments. These activities are administered by Central Mortgage and Housing Corporation, a Crown agency established by Act of Parliament in December 1945. The Minister of Public Works is responsible to Parliament for the implementation of the Government's housing policy and the President of the Corporation reports to the Minister.

Under the National Housing Act, the main financial assistance for new housing is provided through a system of mortgage loan insurance for private house-building. The Federal Government may also join with provincial governments in undertaking public housing projects. In addition, Central Mortgage and Housing Corporation may carry out construction on its own account or on behalf of other government departments and agencies. Public assistance in the housing field is also provided under the Canadian Farm Loan Act, 1927, the Veterans' Land Act, 1942, and the Farm Improvement Loans Act, 1944.

The Federal Government policy has been to stimulate and supplement the market for housing but not to assume direct responsibilities which constitutionally belong to other levels of government, or which can be effectively borne by private enterprise. This principle has been followed since the Federal Government first entered the housing field in 1919. Under the War Measures Act of 1918, the Government made \$25,000,000 available to provincial governments for loans for housing. The provincial governments, in turn, lent the money to municipalities for moderate-cost housing. About 6,000 dwelling units were constructed under this provision. In the Dominion Housing Act of 1935, and in the succeeding National Housing Acts of 1938 and 1944, the main assistance was given through a system of joint lending under which the Federal Government and the private lending institutions shared the loans on the basis of one-quarter and three-quarters, respectively. Under these three Acts, 240,500 dwellings were financed through loans amounting to \$1,466,569,000. In 1954, a new Housing Act was passed under which the joint loan technique was discontinued and mortgage loan insurance was introduced, with the loan wholly advanced by the private lender. To the end of 1958, under the insured loan and other provisions of the 1954 Act, 280,436 dwellings have been financed in loans totalling \$2,797,600,000. In recent years nearly one-half of the housing built in Canada has been assisted by the Federal Government, either directly or indirectly.

* Prepared in the Information Division, Central Mortgage and Housing Corporation, Ottawa.

Insured Mortgage Loans.—On behalf of the Federal Government, the Central Mortgage and Housing Corporation insures loans made by approved lenders to assist in the financing of new house construction for either home ownership or rental. The chartered banks, most of the life insurance companies and a number of other private financial institutions have been approved as lenders under the Act. The borrower pays an insurance fee which is remitted by the lender to the Corporation and paid into a mortgage insurance fund. When claims are made on the fund, the Corporation will pay the approved lender 98 p.c. of the aggregate of the principal owing on the mortgage, approved borrower's charges and interest, together with an acquisition fee of \$125 and approved taxable legal disbursements.

For home ownership, the loan may be 90 p.c. of the first \$12,000 of lending value, plus 70 p.c. of the remainder. The total loan may not exceed \$12,800. For rental housing, the loan is limited to 80 p.c. of the lending value and the maximum amount of the loan is prescribed by Order in Council for the varying types of dwellings. The repayment periods and the loan proportions are prescribed in the National Housing Act. The usual term of an insured mortgage loan is 25 years, although for home ownership loans it may be 30 years. The maximum interest rate for loans, established by Order in Council, was set at 6 p.c. in January 1957. The interest rate may not exceed the rate on long-term Federal Government bonds by more than $2\frac{1}{2}$ p.c. at the time it is set.

The Act requires the Corporation to determine lending values of properties, to prescribe standards of construction and to perform compliance inspections during construction. These and other administrative arrangements are set out in the National Housing Loan Regulations established by Order in Council. To the end of 1958, loans totalling \$2,135,890,000 had financed 211,516 dwellings under the insurance provisions of the 1954 Act.

Direct Corporation Loans.—The National Housing Act authorizes the Corporation to make direct loans in certain cases. (1) With the approval of the Governor in Council, the Corporation may make a direct loan to a limited-dividend housing company for the construction of low-rental housing. Such loans may be up to 90 p.c. of the lending value and may be repayable over a period of up to 50 years. The interest rate is established by Order in Council and is restricted to a rate not exceeding the rate on long-term Federal Government bonds plus $\frac{1}{2}$ of 1 p.c. Between 1946 and the end of 1958, loans to limited-dividend housing companies were approved for over 21,745 units, amounting to \$154,912,000. Over 3,000 of these units were constructed specifically for elderly persons. (2) Loans may be made by the Corporation where ordinary loans are not available from approved lenders. At present, home-owner applicants in centres of less than 55,000 population who are unable to obtain loans from a private approved lender may obtain direct loans from the Corporation subject to the same terms and conditions as insured loans. Subject to limitations which place the houses in the small homes category, home-owner or merchant-builder applicants may obtain direct loans in any area regardless of population if loans are not available from private lenders. Direct loans are also available to defence workers, to veterans building under the Veterans' Land Act, and to co-operative building societies. Direct loans financed 32,588 dwellings between 1949 and the end of 1958, loans totalling \$312,229,000. (3) The Act authorizes the Corporation to make loans to a company engaged in mining, lumbering, logging or fishing for the construction of moderate-cost rental housing. Although no primary industry loans have been made recently, between 1946 and mid-1957 loans were approved for 916 dwellings in the amount of almost \$7,000,000.

In addition to making direct loans, the Corporation may also supply money to private lenders acting as agents to make loans on behalf of the Government. Arrangements for making such loans were in effect between September 1957 and April 1958. In 1957, agency loans were approved for 16,346 units amounting to \$158,000,000, and in 1958 for approximately 11,300 units totalling \$118,558,000.

Purchase and Sale of Mortgages.—The National Housing Act provides that any person or company may purchase insured mortgages provided the mortgage is continuously administered by an approved lender. Approximately 17,000 insured mortgages, totalling \$178,600,000, had been sold by lenders to the end of 1958. The majority of these insured mortgages were bought by pension funds. The Corporation is authorized to buy and sell mortgage loans under both the National Housing Act and the Central Mortgage and Housing Corporation Act, but there has been little activity under these provisions.

Home Improvement Loans.—Under the National Housing Act, the Central Mortgage and Housing Corporation may provide insurance to banks and instalment credit agencies for loans made for the improvement of existing homes. An insurance fee paid by the borrower is deposited in an insurance fund maintained by the Corporation. The Act prescribes the forms of security, the limit of loans upon individual properties, and the term of the loan. By the end of 1958, almost 123,000 loans for alterations, repairs and additions had been approved for a total amount of \$128,900,000.

Federal-Provincial Projects.—The Act provides that where the Federal Government and a provincial government enter into a partnership agreement, the Corporation may undertake jointly with the province the development of a housing or land-assembly project. Capital costs, profits and losses of such projects are shared—75 p.c. by the Federal Government and 25 p.c. by the province, or jointly by the province and a municipality. Under this legislation two main types of project are involved: construction of housing units for rental on either an economic or a subsidized basis; and the assembly and servicing of residential lots for sale. The Act also provides for the construction of housing for sale but no projects of this type have yet been undertaken. To the end of 1958, agreements had been made for the construction of 8,200 dwelling units. To the end of 1958, agreements were made for the assembly and servicing of 15,100 lots. Lots serviced and sold totalled 6,161 at the end of 1958.

Urban Redevelopment.—The Act also provides that, where a municipality undertakes to acquire and clear a blighted or substandard area, a federal grant may be made to the municipality up to one-half the cost of acquisition and clearance. The area may be used for housing or other suitable purposes in accordance with an over-all plan, but it must be substantially residential, either before or after redevelopment. The Corporation receives a share of the revenue from the project proportionate to the contributions made. Grants have been authorized to assist four municipalities in the redevelopment of a total of 122 substandard acres, and by the end of 1958 grants totalling some \$9,000,000 had been approved.

Construction Activities.—The Corporation may carry out construction on its own account or on behalf of other federal departments and agencies. Projects have been constructed for the Departments of National Defence, Public Works, and also for Atomic Energy of Canada Limited. It also arranges and supervises construction of federal-provincial projects. The Corporation built and owns a substantial number of houses at Gander Townsite in Newfoundland, most of which are occupied by Department of Transport employees. Since 1950, total expenditures on these construction activities have amounted to over \$500,000,000.

Research and Community Planning.—The Corporation is responsible for undertaking investigations into housing conditions, for sponsoring technical research and for the distribution of information leading to the improvement of housing accommodation and the adoption of community plans. The Act provides that the Government can make funds available to the Corporation for these purposes and that, by Order in Council, a grant may be made to a municipality, to an educational or research institution or to an individual. Between 1946 and 1958, expenditures of \$1,912,000 had been made for these purposes apart from regular Corporation activities. This includes grants to 16 municipalities to assist in a study of housing conditions and the need for redevelopment.

Guarantees.—Under certain conditions the Corporation is authorized, for a premium, to guarantee returns of private investors from moderate rental housing projects. There has been no activity in this sector in recent years but between 1948 and 1955, projects were approved involving 21,700 dwellings having an estimated cost of \$164,600,000.

The Corporation is authorized to offer guarantees to life insurance companies for low-cost or moderate-cost rental housing projects, or to institutional investors for land development. There has been no activity under this provision in recent years.

A section of the Act authorizes the Corporation to offer purchase guarantees to builders. This has also been inoperative in recent years except for guarantees offered in respect of housing for defence workers.

Other Legislation.—The Canadian Farm Loan Act, 1927, provides for federal long-term loan assistance for farm housing and for other farm purposes. The Veterans' Land Act, 1942, administered by the Department of Veterans Affairs, provides loan and grant assistance to veterans for housing and other purposes. The Farm Improvement Loans Act, 1944, provides for guarantees for intermediate-term and short-term loans made by approved lending agencies to farmers for housing and other purposes.

Provincial Assistance.—All provinces except Prince Edward Island have passed complementary legislation to provide for federal-provincial partnership arrangements for the assembly of land and the construction of low-rent housing as provided in the National Housing Act. Several provinces have also passed other housing legislation.

In *Quebec*, the Act to Improve Housing Conditions (S.Q. 1948, c. 6) and an amendment (S.Q. 1951-52, c. 7) authorize the province to pay a subsidy on interest charges in excess of 3 p.c. on new dwellings. A further amendment (S.Q. 1957-58) increases authorized expenditures under the Act to \$80,000,000.

In *Ontario* the Housing Development Amendment Act (S.O. 1952, c. 39) authorizes the province and a municipality to enter into joint housing projects. Under certain conditions the province may expropriate land in municipalities for the purpose of housing projects. The Planning Amendment Act (S.O. 1952, c. 75) permits municipalities with an approved official plan to designate an area within the municipality as a redevelopment area and to acquire land in that area and clear and prepare it for residential, commercial, industrial or other designated purpose. The Rural Housing Assistance Act (S.O. 1952, c. 92) authorizes the establishment of the Rural Housing Finance Corporation, a Crown company, to provide financial assistance in the building of new houses in villages and rural areas. The Corporation may lend money independently or in co-operation with CMHC or with any approved lending institution. The Junior Farmer Establishment Act (S.O. 1952, c. 45) establishes the Ontario Junior Farmer Establishment Loan Corporation, which assists young farmers in buying, developing and operating farms. The Corporation may make loans for the construction and improvement of farm houses. The loans, not to exceed \$15,000, are repayable in 25 years and are secured by a first mortgage on the property. The Elderly Persons Housing Aid Act (S.O. 1952, c. 27) authorizes the province to make grants to any limited-dividend housing project obtaining a loan under the NHA. The legislation provides for grants amounting to \$500 for each dwelling or 50 p.c. of capital cost in excess of the loan, whichever is the lesser.

Manitoba provides capital grants under the Elderly Persons Housing Act (S.M. 1956, c. 14) and subsequent amendments, to assist limited-dividend housing companies. The legislation provides for grants of 20 p.c. of construction cost up to a maximum of \$1,000 for a two-person unit and \$700 for a one-person unit. This grant may be used to purchase furnishings and fixtures for the housing units.

Saskatchewan assists limited-dividend projects for the elderly under the Housing Act (R.S.S. 1953, c. 246) and subsequent amendments, with capital grants up to 20 p.c. of the total capital cost.

British Columbia assists limited-dividend projects for the elderly under the Elderly Citizens' Housing Aid Act (S.B.C. 1955, c. 19). Capital grants not exceeding one-third of the total cost of the project may be made.

Subsection 2.—Housing Development in 1958

House-Building.—During 1958 house-building activity in Canada was at a higher rate than ever before — 164,600 new houses started compared with 122,300 in 1957 and 138,300 in 1955, the previous record year. Dwellings completed totalled 146,700 in 1958, an increase of 25 p.c. over 1957. In 1957, 117,300 dwellings were completed and in 1956, the previous high for completions, the total was 135,700. At the end of 1958, there were 88,200 units under construction.

Most of the increase in starts during 1958 took place in the 13 metropolitan areas of over 100,000 population. In these centres the increase was 49 p.c. over 1957 while in the smaller urban centres the increase was 38 p.c. and in other areas 12 p.c.

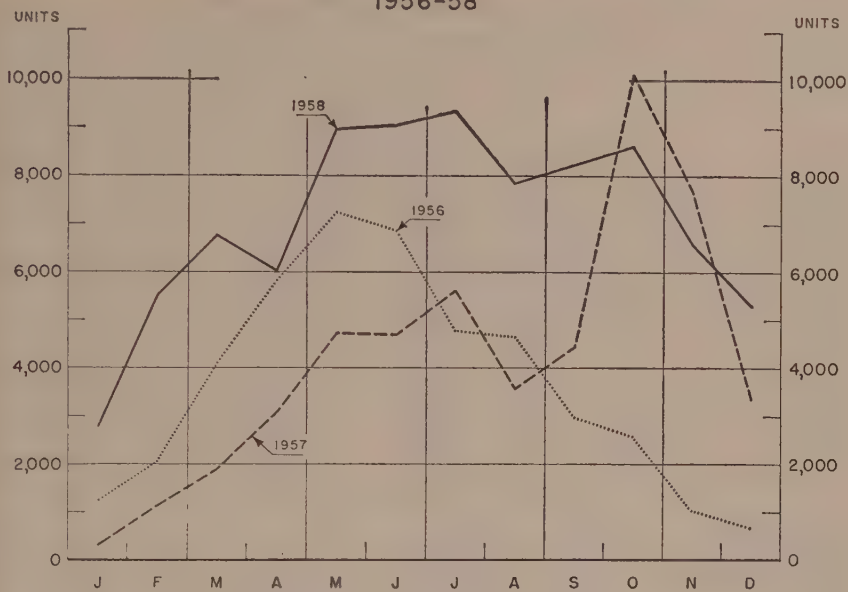
Single-family units made up 64 p.c. of the dwellings started in 1958, an increase of 26 p.c. over 1957. Rental dwellings accounted for slightly less than 29 p.c. of the new dwellings started in this period but the relative increase was much greater, exceeding 1957 by about 68 p.c.

Corresponding with the record production, expenditures on new residential construction totalled \$1,782,000,000 in 1958, a figure \$352,000 higher than in the previous year. Demand was sufficient to absorb most of the new construction and there was a record sale of new homes, reflecting in some measure the high rate of family formation in 1957 which reached a record net level of 103,600. The number of marriages in 1958 is expected to be about the same as in 1957 but a reduction in immigration will result in a smaller number of new families for that year, possibly as much as a 25-p.c. decline.

18.—Housing Units Started and Completed, 1952-58, and by Province, 1957 and 1958

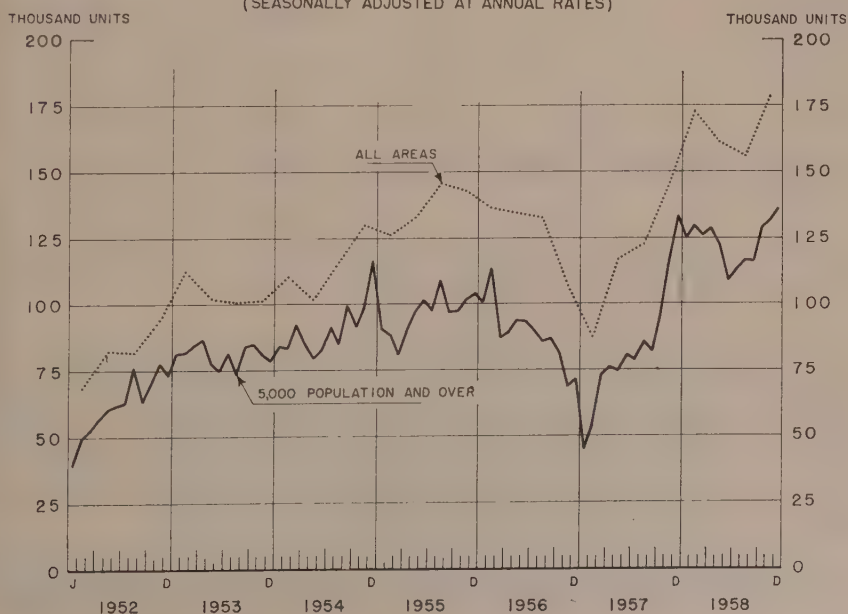
Year and Province	Started			Completed		
	Under the Housing Acts	Other	Total	Under the Housing Acts	Other	Total
	No.	No.	No.	No.	No.	No.
1952.....	34,400	48,846	83,246	20,633	52,454	73,087
1953.....	39,989	62,420	102,409	35,506	61,333	96,839
1954.....	50,373	63,154	113,527	39,137	62,828	101,965
1955.....	65,377	72,899	138,276	58,852	69,077	127,929
1956.....	43,395	83,916	127,311	61,957	73,743	135,700
1957.....	47,468	74,872	122,340	33,301	83,982	117,283
1958.....	81,950	82,682	164,632	69,039	77,647	146,686
1957						
Newfoundland.....	239	906	1,145	200	983	1,183
Prince Edward Island.....	12	114	126	16	133	149
Nova Scotia.....	509	2,176	2,685	451	1,987	2,438
New Brunswick.....	518	1,997	2,515	481	2,069	2,550
Quebec.....	8,463	26,070	34,533	5,473	27,715	33,188
Ontario.....	25,450	22,289	47,739	16,239	28,848	45,087
Manitoba.....	1,471	2,347	3,818	1,547	2,765	4,312
Saskatchewan.....	2,159	2,318	4,477	1,581	2,729	4,310
Alberta.....	5,075	6,107	11,182	4,046	5,902	9,948
British Columbia.....	3,572	10,548	14,120	3,267	10,851	14,118
1958						
Newfoundland.....	554	765	1,309	259	946	1,205
Prince Edward Island.....	41	186	227	17	92	109
Nova Scotia.....	959	1,787	2,746	646	1,674	2,320
New Brunswick.....	968	1,750	2,718	743	2,494	3,237
Quebec.....	14,424	31,900	46,324	10,994	28,766	39,750
Ontario.....	41,103	22,650	63,753	37,907	21,644	59,551
Manitoba.....	3,793	2,709	6,502	2,472	3,271	5,743
Saskatchewan.....	2,453	2,769	5,222	2,289	2,690	4,979
Alberta.....	10,008	6,524	16,532	7,619	5,943	13,562
British Columbia.....	7,657	11,642	19,299	6,093	10,137	16,230

MORTGAGE LOAN APPROVALS UNDER THE NATIONAL HOUSING ACT*, 1956-58



* INCLUDES C.M.H.C. LOANS - DIRECT AND AGENCY.

HOUSING STARTS, 1952-58 (SEASONALLY ADJUSTED AT ANNUAL RATES)



19.—Housing Units Started, by Locality, 1957

Locality	Population	Under the Housing Act		Other		Total	
		Started	Per 1,000 Population	Started	Per 1,000 Population	Started	Per 1,000 Population
	'000	No.	No.	No.	No.	No.	No.
Metropolitan Areas—							
Calgary.....	215	1,729	8	1,696	8	3,425	16
Edmonton.....	292	2,597	9	723	2	3,320	11
Halifax.....	184	280	2	552	3	842	5
Hamilton.....	350	2,041	6	1,223	3	3,264	9
London.....	157	767	5	502	3	1,269	8
Montreal.....	1,963	4,581	2	14,541	8	19,122	10
Ottawa-Hull.....	358	2,355	7	1,469	4	3,824	11
Quebec.....	327	488	1	799	3	1,287	4
Saint John.....	86	115	1	144	2	255	3
St. John's.....	78	62	1	144	2	206	3
Toronto.....	1,359	9,008	7	8,105	6	17,113	13
Vancouver.....	688	2,462	4	5,077	7	7,539	11
Victoria.....	130	235	2	818	6	1,053	8
Windsor.....	192	740	3	297	2	1,037	5
Winnipeg.....	419	1,169	3	923	2	2,092	5
Totals, Metropolitan Areas.....	6,778	28,639	4	37,009	6	65,648	10
Major Urban Areas—							
Brantford.....	59	98	2	115	2	213	4
Chicoutimi-Jonquière.....	100	268	3	238	2	506	5
Fort William-Port Arthur.....	87	318	4	376	4	694	8
Guelph.....	39	184	5	84	2	268	7
Kingston.....	60	202	3	170	3	372	6
Kitchener.....	87	466	5	320	4	786	9
Moncton.....	56	183	3	65	1	248	4
Niagara Falls.....	53	203	4	119	2	322	6
Oshawa.....	74	881	12	203	3	1,084	15
Peterborough.....	55	351	7	123	2	474	9
Regina.....	96	584	6	451	5	1,035	11
St. Catharines.....	98	421	4	345	4	766	8
Sarnia.....	80	275	5	241	4	516	9
Saskatoon.....	79	600	8	480	6	1,080	14
Sault Ste. Marie.....	54	189	4	361	6	550	10
Shawinigan Falls.....	62	50	1	186	3	236	4
Sherbrooke.....	71	56	1	154	2	210	3
Sudbury.....	99	195	2	348	4	543	6
Sydney.....	108	38	--	219	2	257	2
Timmins.....	39	11	--	26	1	37	1
Trois Rivières.....	93	54	1	388	4	442	5
Totals, Major Urban Areas.....	1,529	5,627	4	5,012	3	10,639	7
Other localities ¹	8,251	13,202	2	32,851	4	46,053	6
Canada.....	16,558	47,468	3	74,872	5	122,340	8

¹ Excludes the Yukon and Northwest Territories.

Mortgage Lending.—In the first few months of 1958, mortgage lending was at a higher rate than ever before and a substantial part of this activity was financed with public funds in loans from CMHC. Early in the second quarter, however, private mortgage funds became more plentiful and direct lending dropped sharply. Lending activity remained at a high level throughout the year although there was a relative decline in mid-summer. Thereafter activity increased and in the third quarter lending under the National Housing Act was 92 p.c. higher and conventional institutional lending for new houses 15 p.c. higher than in the corresponding period of 1957.

During 1958, mortgage loan approvals for new housing totalled \$1,199,000,000, exceeding approvals for any previous year. Private lending institutions approved \$810,000,000; of this total \$291,000,000 was in conventional loans and \$519,000,000

in NHA insured loans. The chartered bank approvals totalled \$300,000,000, approximately \$127,000,000 more than 1957. The total includes \$389,000,000 in public funds approved under the agency and direct loans by CMHC. The increase of \$395,000,000 in activity under the National Housing Act over 1957 was shared 60 p.c. by private lenders and 40 p.c. by CMHC.

In May 1958, Parliament voted an additional \$350,000,000 to be used by CMHC primarily for direct lending. This, with the December 1957 vote of \$150,000,000 brought to a total of \$750,000,000 the funds made available to CMHC for its direct lending and related activities. When the agency arrangement for placing direct funds was terminated, the residual direct lending facilities of CMHC were extended to borrowers and areas previously excluded. Loans made under this expanded policy are subject to size limitations which place them in the small homes category. In all, CMHC financed 36,453 new dwellings in 1958 through residual and other direct lending facilities.

20.—Mortgage Loan Approvals under the National Housing Act, by Month, 1955-58¹

Month	Number of Units			
	1955	1956	1957	1958
January.....	1,500	1,245	325	2,785
February.....	2,537	2,067	1,132	5,514
March.....	4,920	4,101	1,902	6,776
April.....	6,420	5,817	3,083	6,025
May.....	8,445	7,242	4,711	8,987
June.....	9,216	6,873	4,696	9,046
July.....	7,695	4,795	5,614	9,351
August.....	7,406	4,633	3,592	7,871
September.....	6,960	2,985	4,425	8,231
October.....	6,550	2,583	10,104	8,615
November.....	4,769	1,020	7,725	6,589
December.....	2,316	662	3,365	5,271

¹ Includes CMHC loans—direct and agency.

21.—Net Loans Approved under the National Housing Acts, by Province, 1952-58

NOTE.—Figures for 1945-51 will be found in the 1955 Year Book, p. 744.

Year and Item	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon and N.W.T.	Canada
1952—												
Loans.....No.	26	9	227	167	4,092	12,336	1,380	307	3,486	1,688	—	23,718
Dwellings....."	27	9	260	182	9,117	16,038	1,916	629	4,056	2,089	—	34,323
Amount.....\$'000	198	64	2,036	1,438	60,538	123,794	13,159	4,533	28,789	14,535	—	249,084
1953—												
Loans.....No.	158	15	410	308	4,684	13,097	1,558	633	3,738	1,913	—	26,514
Dwellings....."	168	16	1,130	333	7,456	18,839	2,050	832	5,464	2,360	—	38,648
Amount.....\$'000	1,279	124	7,813	2,629	55,459	145,129	14,969	6,231	39,593	17,593	4	290,823
1954—												
Loans.....No.	127	16	480	375	6,975	20,422	1,913	884	4,500	3,882	—	39,574
Dwellings....."	166	16	746	391	9,057	26,170	2,540	1,040	5,649	4,344	—	50,119
Amount.....\$'000	1,665	154	6,075	3,372	81,128	240,683	21,813	9,152	49,321	39,418	—	452,781
1955—												
Loans.....No.	343	31	656	496	8,089	29,538	3,006	1,674	6,499	5,813	4	56,149
Dwellings....."	344	33	778	667	10,876	33,498	3,403	1,982	7,057	6,694	4	65,336
Amount.....\$'000	3,560	311	6,869	5,390	97,899	326,657	29,722	17,010	64,766	63,091	37	615,312
1956—												
Loans.....No.	200	12	547	398	5,390	17,466	2,026	1,252	4,899	3,602	2	35,794
Dwellings....."	178	12	650	412	7,105	20,292	2,136	1,528	5,080	3,888	2	41,283
Amount.....\$'000	2,002	124	6,087	3,916	68,205	202,763	19,814	13,544	50,737	39,914	26	407,132

21.—Net Loans Approved under the National Housing Acts, by Province, 1952-58—concluded

Year and Item	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon and N.W.T.	Canada
1957—												
Loans.....No.	152	13	458	388	6,277	22,019	1,116	1,519	4,686	3,344	2	39,974
Dwellings....."	144	13	532	392	9,144	25,920	1,472	2,121	5,247	3,946	2	48,933
Amount.....\$'000	1,648	133	5,218	3,832	87,737	267,256	13,828	19,962	53,710	40,604	26	493,954
1958—												
Loans.....No.	311	38	785	908	9,732	32,214	2,852	2,335	9,655	6,671	14	65,515
Dwellings....."	314	40	972	972	14,267	41,210	3,819	2,509	10,498	7,554	14	82,169
Amount.....\$'000	3,691	392	10,139	9,376	142,586	451,201	38,111	27,301	116,763	83,186	178	882,924

A small market in insured mortgages continued to operate in 1958; 4,384 mortgages amounting to over \$47,700,000 were sold.

Borrowers' Incomes and Costs.—The median income of all borrowers under the National Housing Act in 1958 was lower at \$5,325 than in 1957 at \$5,478. This resulted mainly from the large volume of CMHC lending through the Small Home Loans arrangement under which funds were directed into the lower-cost housing market. There was, however, a significant difference between the incomes of borrowers under the Small Home Loans arrangement and the incomes of other borrowers under the Act. In 1958 the median income of borrowers under the Small Home Loans arrangement was \$4,907, while for other borrowers it was \$5,565.

The average borrower under the Small Home Loans arrangement bought a house costing \$13,350 on which he made a down payment of \$2,412. For borrowers of other loans under the Act, the average dwelling cost \$14,916, and the down payment was \$3,485. These down payments were lower than those of 1957 while the debt service ratios were higher. Both changes were largely the result of the higher loan amounts authorized when the National Housing Act was amended in December 1957.

For bungalows built under the National Housing Act, the average construction cost per square foot in 1958, at \$10.56, was 15 cents higher than in 1957. The corresponding increases in 1956 and 1957 were 41 cents and 19 cents, respectively. This lower rate of increase was partly the result of a slight decline in the prices of building materials. The price index of these materials dropped from 128.4 in 1957 to 127.3 in 1958.

A decline in the sizes of dwellings was sufficient to offset the increased construction costs per square foot so that total construction costs per unit were virtually unchanged. However, land costs continued to rise, averaging \$2,471 in 1958 compared to \$2,260 in 1957. As a result, the total average cost of single-family dwellings financed under the Act in 1958, at \$14,475, was \$200 higher than in 1957. Under the Small Home Loans arrangement the average dwelling cost was \$13,403 compared with \$15,069 for other dwellings financed under the Act.

The houses financed under the Act in 1958 were, on the average, smaller than those of 1957, down from 1,137 to 1,118 sq. feet. Under the Small Home Loans arrangement the average size was 1,041 sq. feet compared to 1,161 sq. feet for other NHA-financed dwellings.

Low Rental Projects.—Included in the direct lending activities of CMHC are loans made to limited-dividend housing companies for low-rental housing. During 1958 loans were approved for 6,282 such dwellings. A substantial number were designed especially for old persons, including the 405-unit development sponsored by the Corporation of Metropolitan Toronto. Public housing built under joint federal-provincial partnerships was occupied by 5,391 families at the end of 1958 and 1,265 more dwellings were under construction. Almost half of the occupied dwellings were rented at levels which will recover capital costs and current operating expenses. In just over half the dwellings the

rents are related to tenant family income and size and any deficiency in revenue from the project is met by the federal-provincial partnership in the 75/25 p.c. proportion in which the capital costs were borne. Thirty-seven municipalities have initiated public housing projects ranging in size from ten dwellings to the 732 and 1,042 dwellings in the Toronto Regent Park South and Lawrence Heights developments. Construction was commenced late in the autumn on the 800-unit development replacing substandard housing in a 20-acre redevelopment area in Montreal.

City Development.—The administration of urban growth is the concern of provincial and municipal governments and many of the provinces have passed planning Acts which endeavour to guide the orderly development of communities. The number of urban centres employing professional staff qualified in town planning is increasing steadily. The Federal Government's activity has been directed generally toward the stimulation of house-building and has been made mainly in the form of loans or guarantees to privately initiated housing. The National Housing Act, however, directs CMHC to promote the improvement of housing and living conditions. Dwellings financed under the Act are required to meet certain standards based on concepts of health and social amenities. Land subdividers are assisted and encouraged in utilizing land to the best advantage in arranging housing layouts. The Corporation assists such organizations as the Community Planning Association of Canada and the Canadian Housing Design Council, which promote the improvement of urban planning and the design of new houses. Grants are also made for the investigation of technical improvements in housing and for advanced studies in related fields.

In many cities there are areas of decay and blight. Over half a million dwellings in Canada are between 50 and 75 years old and over 350,000 are more than 75 years old. Many have deteriorated through lack of care and overcrowding, others when built were below desirable standards. Most of this housing is concentrated in the older central parts of cities. Many city patterns have become obsolete and no longer serve transportation needs adequately. Some of the blight will be removed by private redevelopment but this may pass over large areas and private interests lack the powers needed to effect over-all planning. Federal Government assistance in meeting the cost of acquiring and clearing areas for redevelopment is available to municipalities. Grants of over \$5,000,000 have been authorized for the acquisition and clearance of blighted areas in Toronto, Ont., St. John's, Nfld., Montreal, Que., and Halifax, N.S., totalling approximately 107 acres. The redeveloped areas are being used mainly for public housing but may be used for other purposes if the former residents are rehoused elsewhere. The cleared areas in Halifax will be used for commercial purposes, and a public housing development where the former residents may obtain accommodation is taking place in another part of the city. Studies of housing conditions and the need for redevelopment are being carried out in eleven cities with the assistance of federal grants of some \$180,000.

CHAPTER XVI.—SURVEY OF PRODUCTION*

CONSPECTUS

	PAGE		PAGE
SECTION 1. INDUSTRIAL DISTRIBUTION OF PRODUCTION.....	707	SECTION 3. PER CAPITA VALUE OF PRODUCTION	713
SECTION 2. PROVINCIAL DISTRIBUTION OF PRODUCTION.....	710		

NOTE.—The interpretation of the symbols used in the tables throughout the Year Book will be found facing p. 1 of this volume.

The scope of the Survey of Production is limited to industries chiefly engaged in the production of commodities, the term "production" applying to such processes as the growing of crops, the mining of metals and other minerals, the catching of fish, the conversion of falling water into electric energy, the construction of buildings and the manufacturing and processing of goods. The activities of the transportation, communications, trade, finance and service industries are excluded, except as certain of their costs are indirectly reflected in the value of output of commodity-producing industries. This is in contrast to the scope of the widely used Gross National Product series (*see* Chapter XXIII) which encompasses all industries.

The "net" value of production, or "value added" is generally considered the most significant measure of production, since in assessing the contribution of each industry to the total it is essential that inter-industry duplication be eliminated. Value added is computed by deducting from the total value of output (excluding indirect taxes) for each industry, the cost of materials, fuels, purchased electricity and process supplies consumed in the production process.

The measurement of value added is similar to although not strictly comparable with the concept involved in the contribution of each industry to the gross domestic product at factor cost (net income originating plus depreciation). The main difference is that value added, as computed for each commodity-producing industry, includes the cost of such services as insurance, advertising, communications, etc., which originate in the non-commodity-producing industries. In national income accounting, the contribution of these services to gross national product is classified with the non-commodity-producing group. For instance, the cost of insurance incurred by manufacturers is included in the net value of the manufacturing industry in the Survey of Production series but is not included in the contribution of manufacturing to the gross national product. Thus the measurement of the value of output based on value added contains a certain amount of duplication and the figures for the industrial groups are always higher than those given in the National Accounts series.

One of the major advantages of the Commodity-Production series is that the statistics may be classified by provinces. With the exception of personal income and its major components, the geographical distribution of gross national product is not available mainly because profits cannot be allocated according to the provinces in which they are generated by productive activity. A more detailed explanation of the series and the conceptual and classification differences as compared with the Gross National Income series is given in DBS Bulletin *Survey of Production 1926-1956* (Catalogue No. 61-202).

* Prepared in the Business Statistics Section, Research and Development Division, Dominion Bureau of Statistics.

The record of value added statistics, by province, for the eight commodity-producing industry groups has been revised recently. Figures for six of the industries are extended back to 1926 but because data for forestry and construction are not available on a comparable basis prior to 1935, the complete record by industry and by province covers only the period 1935-56. The 1949-56 totals include Newfoundland's production for forestry, mining, electric power, construction and manufacturing; trapping is included from 1952 and fisheries from 1951.

The statistics given in the following Sections supersede those published in previous Year Books.

Section 1.—Industrial Distribution of Production

Analysis of Commodity Production 1946-56.—In the period 1946-56 inclusive the total net value of commodity production rose by 163 p.c. Sustained demand for consumer goods both at home and abroad, the industrial and resource development programs and the expansion of defence industries all contributed to the advance. Increases were recorded in this period in all industrial groups except trapping.

The net value of agricultural production in 1956 was estimated at \$2,059,000,000, 35 p.c. higher than in 1946, although well below the levels of 1951 and 1952. After a low point in 1954, larger-than-average wheat crops in the two succeeding years accounted for the recovery in 1956. The net value of forestry operations reached almost \$762,000,000, the highest ever recorded and 125 p.c. above the level of 1946. Net value of the primary fisheries production also surpassed its previous peak in 1951; it amounted to nearly \$106,000,000, a figure 58 p.c. above the value for 1946. The quantity of sea fish landed in 1956 was the largest on record and prices of fishery products also reached a new high level. Net value of output in the trapping industry fluctuated considerably over the ten-year period and in 1956 was considerably below that of most earlier years.

In the period under review mining as a whole showed the greatest increase of all the primary industries in net value of production; production was estimated at \$1,224,000,000 in 1956, 280 p.c. above the value in 1946. In terms of physical volume, fuel production advanced by 377 p.c. in the 1946-56 comparison, petroleum output recording a level 23 times that of 1946. The volume of metal mining gained 106 p.c. over the period and production of non-metals rose by 94 p.c. The installed capacity of electric power generating plants increased by 167 p.c. between 1946 and 1956, the gain in terms of net value of production being 169 p.c.

Except for a slight decline in 1954, the net value of manufacturing production rose steadily throughout the period to a total of \$9,605,000,000 in 1956, 177 p.c. above the 1946 total; the value of non-durable manufactures advanced by 141 p.c. and the value of durables by 232 p.c. In the non-durable grouping, fuel products recorded an increase of 519 p.c., by far the largest advance over the review period. The printing and publishing industry nearly tripled its value of output, paper products showed an increase of 172 p.c. and chemical products an increase of 167 p.c. Foods and beverages, tobacco products and rubber products all recorded gains of more than 100 p.c.

All industry groups among the durable manufactures showed large advances over the review period. Net-value of output of non-ferrous metal products advanced 350 p.c. and electrical apparatus and supplies 344 p.c. Non-metallic mineral products rose 241 p.c., the transportation equipment group 224 p.c., the iron and steel products group 210 p.c. and wood products 150 p.c. The total net value of durable manufactures accounted for over 47 p.c. of manufacturing value added in 1956 as compared with less than 40 p.c. ten years earlier.

The construction industry showed the largest proportionate gain of all the major commodity industries in the 1946-56 comparison; the net value rose from \$751,000,000 in 1946 to \$3,344,000,000 in 1956, an increase of 345 p.c. Greatly increased activity in house and all other types of building, together with a substantial increase in construction

costs, was responsible for this advance. Investment in new construction in 1956 amounted to \$4,115,000,000, more than five times the 1946 total, with non-residential construction showing the largest gain.

During the 1946-56 period, the net value of the secondary industries (manufacturing and construction) increased proportionately much more than that of the primary industries. As a result, their contribution to total net value of production rose from 63 p.c. in 1946 to 73 p.c. in 1956. The principal factor in this change was the large gain in the net value of construction which accounted for nearly 19 p.c. of the total in 1956 as compared with only 11 p.c. in 1946. The share of manufacturing rose from 52 p.c. to 54 p.c. in the same comparison.

The contribution of the primary industries to the total declined from 37 p.c. to 27 p.c. during the period but the entire drop in relative importance was accounted for by the decrease in the contribution of agriculture from 23 p.c. in 1946 to 12 p.c. in 1956.

1.—Net Value of Production, by Industry, Specific Years 1946-56

NOTE.—Net production represents total value under a particular heading, less the cost of materials, fuel, purchased electricity and supplies consumed in the production process. Data for fisheries and trapping represent total value.

Industry	1946	1950	1953	1955	1956
	\$	\$	\$	\$	\$
Primary Industries¹	2,505,582,000	3,388,077,063	4,084,547,893	4,245,981,120	4,756,389,881
Agriculture ¹	1,526,354,000	1,832,886,000	2,182,781,000	1,867,767,000	2,059,121,000
Forestry ²	338,263,000	487,119,735	558,795,751	664,664,738	761,476,569
Fisheries.....	67,162,000	82,191,043	89,832,500	91,390,400	105,836,600
Trapping.....	31,078,000	15,204,419	13,221,035	17,423,973	12,360,709
Mining.....	322,214,000	657,328,669	790,596,855	1,061,430,009	1,224,102,003
Electric power.....	220,511,000	313,347,197	449,320,752	543,305,000	593,493,000
Secondary Industries	4,218,205,000	7,486,758,229	10,547,069,351	11,523,650,496	12,949,124,579
Manufactures.....	3,467,005,000	5,942,058,229	7,993,039,351	8,753,450,496	9,605,424,579
Construction.....	751,200,000	1,544,700,000	2,554,000,000	2,770,200,000	3,343,700,000
Totals	6,723,787,000	10,874,835,000	14,631,617,244	15,769,631,616	17,705,514,460

¹Exclusive of agriculture in Newfoundland.

²Excludes farm woodlots.

2.—Percentage Analyses of the Net Value of Production, by Industry, Specific Years 1946-56

Industry	Net Value in— (1949=100)					Percentage of Total Net Production				
	1946	1950	1953	1955	1956	1946	1950	1953	1955	1956
Primary Industries	85.0	114.9	138.6	144.0	161.4	37.3	31.7	27.9	26.9	26.9
Agriculture.....	92.4	110.9	132.1	113.0	124.6	22.7	16.9	14.9	11.8	11.6
Forestry.....	90.9	130.9	150.1	178.6	204.6	5.0	4.5	3.8	4.2	4.3
Fisheries.....	99.6	121.8	133.2	135.5	155.9	1.0	0.8	0.6	0.6	0.6
Trapping.....	203.2	99.4	86.4	113.9	80.8	0.5	0.1	0.1	0.1	0.1
Mining.....	55.5	115.3	138.6	186.1	214.7	4.8	6.0	5.4	6.7	6.9
Electric power.....	81.6	116.0	166.3	201.1	219.7	3.3	2.9	3.1	3.5	3.4
Secondary Industries	62.6	111.1	156.5	171.0	192.2	62.7	68.8	72.1	73.1	73.1
Manufactures.....	65.0	111.5	149.9	164.2	180.2	51.5	54.6	54.6	55.5	54.2
Construction.....	53.4	109.8	181.5	196.9	237.6	11.2	14.2	17.5	17.6	18.9
Totals	69.4	112.3	151.1	162.8	182.8	100.0	100.0	100.0	100.0	100.0

Recent Trends.—The net value of Canadian commodity production during 1956 at \$17,706,000,000 was 12 p.c. above the 1955 total. While all industries except trapping shared in the advance of \$1,936,000,000, manufacturing and construction accounted for 74 p.c. of it and the primary industries for the remainder.

This large increase in value of production reflected the vigorous program of expansion that began in mid-1954 and continued to the end of 1956, highlighted by the great expansion in consumer expenditure and residential construction and the greatly enlarged scale of business investment in plant and equipment accompanied by substantial building-up of business inventories.

In 1957 recessionary factors resulted in a levelling-off in the rate of increase of commodity output; preliminary data indicate only a slight increase in the aggregate net value. A decline of 24 p.c. occurred in the value of agricultural production reflecting the substantial reduction in output of grains in the western provinces. The forestry and fisheries industries also showed sizable declines in production, but mining and electric power recorded further advances over the high levels of 1956. On the whole, a moderate increase was estimated in the net value of the manufacturing industry in 1957, but it was more than accounted for by higher prices since the volume of output was about 2 p.c. lower than in 1956. The construction industry, however, showed a gain of about 11 p.c. over the preceding year; a decline in residential building was more than offset by a higher average level of other types of construction.

Advance data suggest that the value of commodity production for 1958 was little changed from 1957. While the net values of the agriculture and construction industries were higher, declines occurred in the manufacturing and mining industries.

Section 2.—Provincial Distribution of Production

All provinces and territories showed large increases in net value of production over the 1946-56 period. The greatest proportionate gains were recorded by British Columbia and Alberta, amounting to 206 p.c. and 191 p.c., respectively. The economies of Ontario and Quebec also developed rapidly during the period; the value of net output in Ontario rose by 180 p.c. and in Quebec by 154 p.c. The other provinces and the territories showed more moderate gains.

3.—Net Value of Production, by Province, Specific Years 1946-56

Nors.—Figures for 1950 and 1953 have been revised since the publication of the 1957-58 edition as a result of changes in the forestry item.

Province or Territory	1946	1950	1953	1955	1956
	\$	\$	\$	\$	\$
Newfoundland ¹	—	104,211,000	159,195,289	190,913,405	212,468,130
Prince Edward Island.....	20,386,000	30,011,000	33,012,540	37,740,811	39,137,112
Nova Scotia.....	199,545,000	260,789,000	329,766,794	343,263,556	379,902,715
New Brunswick.....	167,008,000	242,713,000	260,996,477	289,916,350	319,198,678
Quebec.....	1,786,910,000	2,838,374,000	3,803,883,257	4,154,735,222	4,543,660,524
Ontario.....	2,529,727,000	4,469,631,000	5,990,989,151	6,426,947,022	7,072,489,377
Manitoba.....	359,693,000	490,604,000	563,662,409	585,219,522	686,871,514
Saskatchewan.....	520,391,000	636,163,000	911,956,307	837,778,719	1,031,415,033
Alberta.....	519,937,000	756,892,000	1,180,122,362	1,278,233,313	1,510,380,076
British Columbia ²	613,421,000	1,027,952,000	1,376,443,675	1,587,990,127	1,877,857,488
Yukon and Northwest Territories ²	6,769,000	17,495,000	21,588,983	36,893,569	32,133,813
Canada.....	6,723,787,000	10,874,835,000	14,631,617,244	15,769,631,616	17,705,514,460

¹ Excludes agriculture with British Columbia.

² Construction figures for the Yukon and Northwest Territories are included

4.—Percentages of Total Net Production, by Province, Specific Years 1946-56

NOTE.—Figures for 1950 and 1953 have been revised since the publication of the 1957-58 edition as a result of changes in the forestry item.

Province or Territory	1946	1950	1953	1955	1956
	p.c.	p.c.	p.c.	p.c.	p.c.
Newfoundland ¹	—	1.0	1.1	1.2	1.2
Prince Edward Island.....	0.3	0.3	0.2	0.2	0.2
Nova Scotia.....	3.0	2.4	2.3	2.2	2.1
New Brunswick.....	2.5	2.2	1.8	1.8	1.8
Quebec.....	26.6	26.1	26.0	26.4	25.7
Ontario.....	37.6	41.1	40.9	40.8	40.0
Manitoba.....	5.4	4.5	3.9	3.7	3.9
Saskatchewan.....	7.7	5.8	6.2	5.3	5.8
Alberta.....	7.7	7.0	8.1	8.1	8.5
British Columbia ²	9.1	9.4	9.4	10.1	10.6
Yukon and Northwest Territories ²	0.1	0.2	0.1	0.2	0.2
Canada.....	100.0	100.0	100.0	100.0	100.0

¹ Excludes agriculture.
with British Columbia.

² Construction figures for the Yukon and Northwest Territories are included

Newfoundland.—In 1956, the net value of commodity production in Newfoundland, exclusive of agriculture, amounted to over \$212,000,000 or about 1.2 p.c. of the Canadian total. The manufactures group, composed mainly of the large pulp and paper and fish processing industries, accounted for nearly 30 p.c. of the provincial total. Mining accounted for over 24 p.c. reflecting the active exploitation of the province's large iron, zinc and lead deposits. Construction was active in Newfoundland as elsewhere in Canada and also accounted for nearly 24 p.c. of the net value of commodity output; forestry and fisheries were next in importance.

Prince Edward Island.—The economy of this island province is predominantly agricultural, farm output accounting for over 43 p.c. of the net value of production in 1956. Construction represented 27 p.c. and, together with manufacturing, contributed the bulk of the non-farm output. The province's net value of production advanced by 92 p.c. between 1946 and 1956 and in the latter year represented 0.2 p.c. of the Canadian total.

Nova Scotia.—In 1956 the net value of commodity production in Nova Scotia accounted for a little more than 2 p.c. of the total for Canada. The province's manufacturing industries—the most important of which are primary iron and steel, shipbuilding, pulp and paper and fish processing—represented 42 p.c. of its net output, and construction 23 p.c. Mining, particularly of coal, is Nova Scotia's main primary industry, and in 1956 represented over 13 p.c. of the value of provincial output. Agriculture and fisheries are both important to the provincial economy, each accounting for nearly 7 p.c. In the 1946-56 period, the net value of commodity production in the province increased by 90 p.c.

New Brunswick.—New Brunswick's share of the Canadian net value of production was 1.8 p.c. in 1956 being estimated for that year at \$319,000,000. The large pulp and paper industry together with sawmilling, shipbuilding and fish processing gives manufacturing the lead in the activities of the province. In 1956 manufactures accounted for more than 39 p.c. of the total net value of production and construction accounted for nearly 25 p.c. Forestry was the principal primary industry, contributing 14 p.c. of the total, and agriculture followed with 11 p.c. New Brunswick's value of commodity output advanced by 91 p.c. in the 1946-56 period.

Quebec.—In 1956, the net value of production in Quebec at \$4,544,000,000 represented nearly 26 p.c. of the total for Canada. Manufacturing was by far the leading group, accounting for nearly 64 p.c. of the province's net commodity output. Pulp and paper alone contributed about 11 p.c. of the net factory output and smelting and refining and the manufacture of clothing, textiles, petroleum products and electrical apparatus and supplies also ranked high among Quebec's manufacturing industries. The contribution of the construction industry was 16.7 p.c. in 1956 but agriculture accounted for only 5.5 p.c. Over the 1946-56 period the net value of commodity production in Quebec recorded an advance of 154 p.c.

Ontario.—Net commodity production in Ontario rose from \$2,530,000,000 in 1946 to \$7,072,000,000 in 1956, a gain of 180 p.c. This province accounted for 40 p.c. of the Canadian total in the latter year. The economy of Ontario, like that of Quebec, is largely dominated by manufacturing which has represented from 68 to 70 p.c. of the provincial net value of output in recent years. Manufacturing industries in which value added exceeded \$100,000,000 in 1956 were, in order of importance: motor vehicles, primary iron and steel, smelting and refining, pulp and paper, rubber products, heavy electrical machinery, motor vehicle parts, petroleum products and aircraft and parts. Construction accounted for nearly 16 p.c. of the provincial total in 1956 and agriculture about 7 p.c.

Manitoba.—The net value of commodity production in Manitoba advanced from \$360,000,000 in 1946 to \$687,000,000 in 1956, or by 91 p.c. Its contribution to the Canadian aggregate, however, declined from 5.3 p.c. to 3.9 p.c. over the period. Manufacturing is now the principal activity in the province, accounting for nearly 40 p.c. of the total net value in 1956, with slaughtering and meat packing, petroleum products and railway rolling-stock the leading industries. Agriculture, consisting predominantly of the production of grain and livestock, contributed only 27 p.c. of the provincial total in that year as compared with 45 p.c. in 1946. Construction has risen sharply in recent years and in 1956 accounted for 23 p.c. of the total net value of production.

Saskatchewan.—The economy of Saskatchewan is largely dependent on agriculture. A larger-than-average wheat crop combined with substantial increases in construction and mining raised the total net value of Saskatchewan's commodity output to a record \$1,031,000,000 in 1956, almost double the 1946 total. Even so, the province's share of the total Canadian net value of production dropped to 5.8 p.c. in 1956 from 7.7 p.c. ten years earlier. In 1956 agriculture accounted for over 59 p.c. of the net value of provincial output, construction for 19 p.c. and manufacturing for 11 p.c. The leading manufacturing industries were petroleum products, slaughtering and meat packing, flour milling, brewing, and butter and cheese; the leading mineral products were copper and uranium.

Alberta.—The net value of commodity production in Alberta was \$1,510,000,000 in 1956, 191 p.c. higher than in 1946, and the province's contribution to the Canadian aggregate advanced from 7.7 p.c. to 8.5 p.c. during the period. In this comparison, agriculture declined in relative importance, accounting for only 26 p.c. of the provincial total in 1956 as compared with 58 p.c. in 1946. The net value of the mining industry, however, rose from 9 p.c. to 25 p.c. of the total, accounted for almost entirely by an increase in petroleum output.

Manufacturing production also advanced steadily and in 1956 was valued at \$286,000,000 or about 19 p.c. of the provincial net aggregate. Petroleum refining, slaughtering and meat packing, brewing, printing and publishing, and sawmilling were the major manufacturing industries. The net value of construction, which accounted for about 12 p.c. of the provincial total in 1946, contributed 27 p.c. in 1956.

British Columbia.—In 1956 the net value of commodity production in British Columbia amounted to \$1,878,000,000. This was a gain of 206 p.c. over 1946 and was the highest percentage increase recorded by any province during the review period, when the province's contribution to the Canadian aggregate rose from 9.1 p.c. to 10.6 p.c.

Manufacturing accounted for 44 p.c. of the provincial total net value of output in 1956, sawmilling and pulp and paper contributed the major share although smelting and refining, the manufacture of petroleum products, and fish processing were also of importance. Construction accounted for over 25 p.c. of the provincial aggregate and forestry for nearly 16 p.c. The contribution of the mining industry fell below 6 p.c. in 1956.

5.—Net Value of Production and Percentage Analysis, by Province, 1946 and 1956

Industry	Newfoundland		Prince Edward Island		Nova Scotia		New Brunswick	
	\$'000	p.c.	\$'000	p.c.	\$'000	p.c.	\$'000	p.c.
1946								
Agriculture.....	...	...	11,170	54.8	28,142	14.1	29,433	17.6
Forestry.....	...	...	198	1.0	10,826	5.4	28,932	17.3
Fisheries.....	...	...	3,086	15.1	20,560	10.3	7,146	4.3
Trapping.....	...	...	19	0.1	733	0.4	240	0.1
Mining.....	...	...	—	—	25,668	12.9	3,807	2.3
Electric power.....	...	...	344	1.7	7,077	3.5	4,867	2.9
Manufactures.....	...	...	3,469	17.0	71,739	36.0	67,783	40.6
Construction.....	...	...	2,100	10.3	34,800	17.4	24,800	14.9
Totals, 1946	...	...	20,386	100.0	199,545	100.0	167,008	100.0
	Quebec		Ontario		Manitoba		Saskatchewan	
	\$'000	p.c.	\$'000	p.c.	\$'000	p.c.	\$'000	p.c.
Agriculture.....	191,666	10.7	330,948	13.1	163,407	45.4	409,890	78.8
Forestry.....	137,673	7.7	73,149	2.9	4,047	1.1	3,267	0.6
Fisheries.....	4,475	0.3	5,597	0.2	3,304	0.9	729	0.2
Trapping.....	5,308	0.3	7,793	0.3	5,012	1.4	2,677	0.5
Mining.....	55,974	3.1	106,809	4.2	8,241	2.3	21,930	4.2
Electric power.....	84,822	4.8	73,547	2.9	12,001	3.4	6,338	1.2
Manufactures.....	1,125,992	63.0	1,659,284	65.6	122,781	34.1	38,460	7.4
Construction.....	181,000	10.1	272,600	10.8	40,900	11.4	37,100	7.1
Totals, 1946	1,786,910	100.0	2,529,727	100.0	359,693	100.0	520,391	100.0
	Alberta		British Columbia		Yukon and Northwest Territories		Canada	
	\$'000	p.c.	\$'000	p.c.	\$'000	p.c.	\$'000	p.c.
Agriculture.....	302,819	58.2	58,879	9.6	..	..	1,526,354	22.7
Forestry.....	8,564	1.7	71,167	11.6	440	6.5	338,263	5.0
Fisheries.....	600	0.1	21,372	3.5	293	4.3	67,162	1.0
Trapping.....	2,974	0.6	2,894	0.5	3,428	50.7	31,078	0.5
Mining.....	47,634	9.2	50,200	8.2	1,951	28.8	322,214	4.8
Electric power.....	9,011	1.7	22,256	3.6	248	3.7	220,511	3.3
Manufactures.....	83,735	16.1	293,353	47.8	409	6.0	3,467,005	51.5
Construction.....	64,600	12.4	93,300	15.2	—	—	751,200	11.2
Totals, 1946	519,937	100.0	613,421	100.0	6,769	100.0	6,723,787	100.0
	Newfoundland		Prince Edward Island		Nova Scotia		New Brunswick	
1956	\$'000	p.c.	\$'000	p.c.	\$'000	p.c.	\$'000	p.c.
Agriculture.....	..	..	16,856	43.1	25,266	6.7	35,743	11.2
Forestry.....	23,954	..	350	0.9	15,912	4.2	45,759	14.3
Fisheries.....	14,970	..	3,949	10.1	25,039	6.6	8,146	2.6
Trapping.....	158	..	2	..	158	..	148	..
Mining.....	51,332	..	—	—	50,119	13.2	12,028	3.8
Electric power.....	8,446	..	1,418	3.6	17,989	4.7	13,061	4.1
Manufactures.....	62,608	..	6,162	15.7	159,820	42.1	125,314	39.3
Construction.....	51,000	..	10,400	26.6	85,600	22.5	79,000	24.7
Totals, 1956	212,468¹	..	39,137	100.0	379,903	100.0	319,199	100.0

For footnotes, see end of table.

**5.—Net Value of Production and Percentage Analysis, by Province, 1946 and 1956—
concluded**

Industry	Quebec		Ontario		Manitoba		Saskatchewan	
	\$'000	p.c.	\$'000	p.c.	\$'000	p.c.	\$'000	p.c.
1956—concluded								
Agriculture.....	250,145	5.5	466,188	6.6	187,510	27.3	611,681	59.3
Forestry.....	226,076	5.0	127,067	1.8	9,223	1.4	5,071	0.5
Fisheries.....	4,440	0.1	7,927	0.1	2,947	0.4	784	0.1
Trapping.....	1,162	--	2,990	--	2,240	0.3	2,837	0.3
Mining.....	243,074	5.3	246,454	3.5	27,486	4.0	76,450	7.4
Electric power.....	171,415	3.8	236,993	3.4	27,548	4.0	21,564	2.1
Manufactures.....	2,888,149	63.6	4,868,570	68.8	270,018	39.3	113,628	11.0
Construction.....	759,200	16.7	1,116,300	15.8	159,900	23.3	199,400	19.3
Totals, 1956.....	4,543,661	100.0	7,072,489	100.0	686,872	100.0	1,031,415	100.0
	Alberta		British Columbia		Yukon and Northwest Territories		Canada	
	\$'000	p.c.	\$'000	p.c.	\$'000	p.c.	\$'000	p.c.
Agriculture.....	389,091	25.8	76,641	4.1	—	—	2,059,121	11.6
Forestry.....	13,789	0.9	293,169	15.6	1,106	3.4	761,477	4.3
Fisheries.....	790	--	36,058	1.9	788	2.5	105,837	0.6
Trapping.....	1,132	0.1	572	--	961	3.0	12,361	0.1
Mining.....	380,800	25.2	109,816	5.9	26,543	82.6	1,224,102	6.9
Electric power.....	32,847	2.2	60,552	3.2	1,660	5.2	593,493	3.4
Manufactures.....	285,631	18.9	824,249	43.9	1,076	3.3	9,605,425	54.2
Construction.....	406,100	26.9	476,800	25.4	1	—	3,343,700	18.9
Totals, 1956.....	1,510,380	100.0	1,877,857	100.0	32,134	100.0	17,705,514	100.0

¹ Construction figures for the Yukon and Northwest Territories are included with British Columbia.

² Excludes agriculture.

Section 3.—Per Capita Value of Production

Between 1946 and 1956, the gain of 160 p.c. in the total net value of commodity production (excluding Newfoundland) was accompanied by an increase of 27 p.c. in population. During the period, net value of production per capita more than doubled, advancing from \$547 to \$1,117. At the same time, wholesale prices rose by 62 p.c., indicating a substantial increase in 'real' commodity production per head of population.

Per capita net value of output in the Maritime Provinces has always been far below the Canadian average; in 1956 it was \$547, slightly less than half the national figure, compared with a standing of 40 p.c. below the Canadian average in 1946. Quebec's per capita production, which was 10 p.c. below the national figure in 1946, was 12 p.c. below the 1956 average. On the other hand, per capita net value of output in Ontario at \$1,309 was 17 p.c. above the Canadian average. Although Ontario had ranked first in per capita output in most previous years, that province dropped to third place in 1956.

Manitoba's production per head of population was well below the national average throughout the 1946-56 period; at \$808 in 1956 it was nearly 28 p.c. lower. The per capita figure for Saskatchewan, which fluctuates widely with crop conditions, was 5 p.c. above the Canadian average in 1956, after falling 30 p.c. below it two years earlier. In recent years, Alberta has shown a consistently high per capita output and in 1956 ranked first among the provinces with a value per head of \$1,345, over 20 p.c. above the Canadian average. British Columbia ranked second in this comparison with a figure of \$1,336, also about 20 p.c. above the national average.

6.—Per Capita Net Value of Production with Percentage Variation from the National Average, by Province, Specific Years 1946-56

NOTE.—Figures for 1950 and 1953 have been revised since the publication of the 1957-58 edition as a result of changes in the forestry item.

Province	1946		1950		1953		1955		1956	
	Per Capita Net Value	Variation	Per Capita Net Value	Variation	Per Capita Net Value	Variation	Per Capita Net Value	Variation	Per Capita Net Value	Variation
	\$	p.c.	\$	p.c.	\$	p.c.	\$	p.c.	\$	p.c.
Prince Edward Island....	217	-60.3	313	-61.2	327	-67.3	377	-63.0	395	-64.6
Nova Scotia.....	328	-40.0	409	-49.3	497	-50.4	503	-50.6	547	-51.0
New Brunswick.....	349	-36.2	474	-41.2	490	-51.0	530	-48.0	575	-48.5
Quebec.....	492	-10.1	715	-11.3	891	-11.0	920	- 9.7	982	-12.1
Ontario.....	618	+13.0	1,000	+24.1	1,213	+21.2	1,220	+19.7	1,309	+17.2
Manitoba.....	495	- 9.5	639	-20.7	697	-30.4	698	-31.5	808	-27.7
Saskatchewan.....	625	+14.3	764	- 5.2	1,059	+ 5.8	954	- 6.4	1,171	+ 4.8
Alberta.....	647	+18.3	829	+ 2.9	1,166	+16.5	1,172	+15.0	1,345	+20.4
British Columbia ¹	604	+10.4	900	+11.7	1,098	+ 9.7	1,185	+16.3	1,336	+19.6
Canada².....	547	...	806	...	1,001	...	1,019	...	1,117	...

¹ Includes the Yukon and the Northwest Territories. provinces are not complete.

² Excludes Newfoundland because figures for that

CHAPTER XVII.—LABOUR*

CONSPECTUS

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NOTE.—The interpretation of the symbols used in the tables throughout the Year Book will be found facing p. 1 of this volume.

Section 1.—The Government in Relation to Labour

Subsection 1.—Federal Labour Legislation

The federal Department of Labour was established in 1900 under the Conciliation Act which provided machinery to aid in preventing and settling labour disputes and required the Department to collect, compile and publish statistical and other relevant information. The Department also assumed the administration of the Fair Wages Policy adopted in the same year for the protection of workmen employed in the execution of Federal Government contracts and on works aided by grants from public funds.

The statutory duty of disseminating information concerning labour and industrial matters is set out in the Department of Labour Act passed in 1909. In addition the Minister is responsible for the administration of the following statutes: Conciliation and Labour Act (1906); Government Annuities Act (1908)†; Government Employees Compensation Act (1918); Fair Wages and Hours of Labour Act (1935); Unemployment Insurance Act (1940); Vocational Training Co-ordination Act (1942); Reinstatement in Civil Employment Act (1946); Merchant Seamen Compensation Act (1946); Industrial Relations and Disputes Investigation Act (1948); Canada Fair Employment Practices Act (1953); Female Employees Equal Pay Act (1956); and the Annual Vacations Act (1958).

Fair Wages Policy.—The Fair Wages Policy applying to all Federal Government contracts was first set forth in a Resolution of the House of Commons (1900) and later incorporated in an Order in Council and amended from time to time. Wages and hours on contracts for construction are now regulated by the Fair Wages and Hours of Labour

* Except as otherwise noted, this Chapter has been revised under the direction of A. H. Brown, Deputy Minister, Department of Labour, Ottawa.

† Statistics and details of administration under this Act are given at pp. 265-267.

Act and Order in Council P.C. 2029 of Dec. 22, 1954. Hours of work on construction contracts are limited to eight per day and 44 per week, except in an emergency or in exceptional circumstances where exemption is granted by Order in Council; wages to be paid are those current for the type of work in the district or, if there are no current rates, fair and reasonable rates as determined by the Minister of Labour.

Wages and hours of work on contracts for equipment and supplies are also regulated by Order in Council P.C. 2029. The hours of such work must be those fixed by the custom of the trade in the district where the work is performed, or fair and reasonable hours. The wages must be current or fair and reasonable but in no event shall they be less than those established by statute or regulation of the province in which the work is being performed. This Order in Council contains a clause prohibiting discrimination against any person in matters of employment because of that person's race, national origin, colour or religion, or because he has made a complaint or given information with respect to such alleged discrimination.

*Government Prevailing Rate Employees.**—Many departments and agencies of government employ non-office workers in public buildings, defence establishments, parks and forests, experimental farms, canal operation, airports and government vessels, survey parties, special projects, etc. Such positions are exempt from the operations of the Civil Service Act and rates of pay are fixed by the Treasury Board in consultation with the Department of Labour on the basis of prevailing private industry rates for comparable work in the employment area. Data used in the determination of these pay rates are secured from wage surveys made by Industrial Relations Officers of the Department of Labour and wage research conducted by the Economics and Research Branch as well as from collective agreements and information supplied by some provincial Departments of Labour.

The Fair Wages and Prevailing Rates Division of the Industrial Relations Branch also recommends rates of pay for 3,700 commissionaires employed by various government departments and agencies throughout Canada, provides wage data to assist certain Crown corporations in the preparation of their wage schedules, and gives assistance in the establishment of class titles, job descriptions and the application of job evaluation techniques.

Three sets of comprehensive Regulations have been established by the Treasury Board governing the hours of work, overtime, vacations, statutory holidays, sick leave, pensions, etc., for (1) prevailing rate workers generally employed, (2) ships' officers and (3) ships' crews.

The Industrial Relations and Disputes Investigation Act.—This legislation came into effect by proclamation on Sept. 1, 1948, revoking the Wartime Labour Relations Regulations in effect since March 1944 and repealing the Industrial Disputes Investigation Act which had been in force from 1907 until suspended by the Wartime Regulations in 1944. The Act protects proceedings commenced and decisions, orders and certifications made under the wartime legislation in so far as these involve services authorized by the Act.

The Act applies only to industries within federal jurisdiction, viz., navigation, shipping, interprovincial railways, canals, telegraphs, steamship lines and ferries, both international and interprovincial, aerodromes and air transportation, radio broadcasting stations, and works declared by Parliament to be for the general advantage of Canada or of two or more provinces. However, the Act provides that provincial authorities if they so desire may enact similar legislation for application to employees within provincial jurisdiction and make mutually satisfactory arrangements with the Federal Government for the administration of such legislation by the federal authorities.

In general, the Act in its important features provides that employees and employers shall have the right to organize and bargain collectively and that trade unions may be certified as bargaining agents for employee groups. Trade unions and employers are required,

* Statistics on numbers and earnings of prevailing rate and other groups of federal employees exempt from the Civil Service Act are given at pp. 118-125.

upon notice, to bargain collectively in good faith. The Act provides for invoking collective bargaining negotiations and for the mediation of conciliation officers and conciliation boards in reaching collective agreements. Employees may change bargaining agents at times under conditions specified in the Act which also prescribes conditions affecting the duration and renewal of collective agreements. Collective agreements are required to contain provision for the arbitration of disputes concerning the meaning or violation of such agreements and where such provision is lacking application may be made for its establishment. The Act prohibits unfair labour practices, i.e., the interference with or domination of trade unions by employers or interference, discrimination and coercion in trade union activity. The conditions that must be observed prior to strike and lockout action are provided for in the Act. Industrial inquiry commissions may be appointed to investigate industrial matters or disputes.

The Minister of Labour is charged with the administration of the Act and is directly responsible for the provisions affecting the appointment of conciliation officers, conciliation boards, industrial inquiry commissions, consent to prosecute, and complaints that the Act has been violated or that a party has failed to bargain in good faith.

The Canada Labour Relations Board administers provisions concerning the certification of bargaining agents, the writing of a procedure into a collective agreement for the final settlement of disputes concerning the meaning or violation of such agreement, and the investigation of complaints made to the Minister that a party has failed to bargain collectively.

Detailed statistics concerning activities under the Act may be found in the Annual Report of the Department of Labour. In brief, from Sept. 1, 1948, to Mar. 31, 1958, the Canada Labour Relations Board received 866 applications for certification, 541 of which were granted, 158 rejected, 160 withdrawn and seven were pending at the end of the period. Of the 537 industrial disputes dealt with under the conciliation provisions of the Act, 432 were settled by conciliation officers and conciliation boards, 44 were not settled, 11 lapsed and 50 were pending at Mar. 31, 1958.

Labour-Management Co-operation Service.—During World War II, production committees based on the principle of joint consultation between labour and management were established in many vital industries. Since 1947 the establishment of labour-management production committees in industry has been encouraged and assisted by the Labour-Management Co-operation Service, a section of the Industrial Relations Branch of the Department of Labour. The number of active committees has grown from 526 in 1947 to approximately 1,450. Their activities are directed towards such objects as better understanding between management and labour, improved production efficiency, improved quality, reduction of waste, accident prevention, good housekeeping, and reduction of absenteeism.

Reinstatement in Civil Employment Act.—This Act provides for the reinstatement in their civil employment of discharged members of the Armed Forces and other designated persons. It was originally passed in 1942 and revised in 1946 and is administered by the Minister of Labour through the Unemployment Insurance Commission. In 1954, by the Veterans Benefit Act, the Act was made applicable to certain ex-members of the Special Force and to former members of the regular Forces who had served for a period not exceeding three years after July 5, 1950, and prior to July 1, 1955.

Canada Fair Employment Practices Act.—This Act, which came into effect on July 1, 1953, prohibits discrimination in employment based on race, colour, religion or national origin. It applies only to industries within federal jurisdiction—those covered by the Industrial Relations and Disputes Investigation Act (*see* p. 716). This law prohibits acts of discrimination by employers; discrimination by trade unions in regard to membership or employment; the use by employers of employment agencies which practise discrimination; and of advertisements or inquiries in connection with employment which express, directly or indirectly, any limitation, specification or preference as to race, colour, religion or national origin.

Female Employees Equal Pay Act.—This Act came into effect on Oct. 1, 1956, and applies to employers and employees engaged in works, undertakings or businesses coming within federal jurisdiction. The Act, in its principal provision, prohibits an employer from employing a female for any work at a rate of pay that is less than the rate at which a male is employed by that employer for identical or substantially identical work.

Annual Vacations Act.—This Act was passed in January 1958 and became effective by proclamation on Oct. 1, 1958. It provides a one-week vacation with pay for the first year of employment and a two-week vacation for subsequent years. Vacation pay is computed at 2 p.c. of wages, as defined in the Act, for a vacation of one week and 4 p.c. for a vacation of two weeks.

Subsection 2.—Provincial Labour Legislation

Labour legislation in Canada is mainly a matter for the provincial legislatures as it usually deals with the contract of service between employer and employee, the contract between members of a trade union which forms the basis of the union, or regulates conditions in local work places. The right to contract is a civil right and the British North America Act, which distributes legislative powers between the Parliament of Canada and the provincial legislatures, grants to the provinces power to enact laws in relation to "civil rights" and, with certain exceptions, "local works and undertakings". In each province a Department of Labour (in Alberta, the Department of Industries and Labour) is charged with the administration of labour laws. Legislation for the protection of miners is administered by departments dealing with mines.

Factory legislation and shops legislation in several of the provinces prohibit child labour, regulate the hours of work of women and young persons and provide for safety and health. Most provinces have minimum wage legislation and maximum hours laws, legislation to ensure freedom of association, to promote collective bargaining and to provide for the settlement of industrial disputes, and legislation dealing with apprenticeship and the licensing of certain classes of workmen. The Industrial Standards Acts of Nova Scotia, New Brunswick, Ontario and Saskatchewan, the Labour Act of Alberta and the Fair Wage Act of Manitoba enable the wages and hours of work agreed upon at a conference of representatives of employers and employees in designated trades to be made the minimum standards throughout the trade concerned. The Quebec Collective Agreement Act permits collective agreements between employers and trade unions to be made binding on all in the industry. The workmen's compensation law in each province is administered by a board appointed by the Lieutenant-Governor in Council.

Provincial labour legislation enacted in 1958 is outlined in the following paragraphs.

Newfoundland.—An amendment to the *Workmen's Compensation Act* empowered the Workmen's Compensation Board to spend up to \$25,000 annually to provide disabled workmen with necessary academic or vocational training.

Prince Edward Island.—The *Trade Union Act* was amended to set out a procedure under which either the bargaining agent or the employer may, by notice, require the other to meet for negotiation of a collective agreement after a union has been certified. Where notice to negotiate has been given, the certified bargaining agent and the employer must, within 15 days from the date of notice or such time as both parties have agreed upon, meet and commence bargaining and make every effort to conclude an agreement. Provision was also made, for the first time, authorizing the Minister of Labour, on the request of either party or on his own discretion, to instruct a conciliation officer to assist the parties to conclude an agreement.

An amendment to the *Workmen's Compensation Act* increased the maximum annual earnings on which compensation is based from \$2,700 to \$3,000. The maximum monthly amount payable to a widow and children was increased from \$130 to \$170, enabling compensation to be paid in respect of a maximum of six children.

Nova Scotia.—The *Vacation Pay Act* which came into force on Jan. 1, 1959, provides, for the first time, for an annual vacation with pay of one week for all employees in the province, except independent contractors, domestic servants and persons employed in farming, lumbering and commercial fishing. A vacation stamp system is provided for workers in the construction industry who are not employed regularly by one employer. The vacation pay to be granted is 2 p.c. of the employee's earnings.

New Brunswick.—The *Vacation Pay Act*, passed in 1954 to provide for an annual vacation with pay of one week for workers in the mining and construction industry, was extended effective from June 30, 1958, to cover fish, fruit and vegetable packers.

An amendment to the *Workmen's Compensation Act* increased the rate of compensation for disability from 70 to 75 p.c. of earnings. The Legislature also authorized the Workmen's Compensation Board to spend an increased amount for rehabilitation—\$50,000 a year instead of \$15,000. All widows' pensions being paid according to the lower scales of benefits were raised to the current level of \$50 a month, effective from June 1, 1958.

An amendment to the *Trades Examination Act*, which provides for the examination and certification of tradesmen in certain building trades on a voluntary basis, added the motor vehicle repair (mechanical) trade to the trades covered by the Act.

Ontario.—The *Labour Relations Act* was amended to provide that where a collective agreement is for a term of not more than two years, application for a change in the bargaining agent may be made only during the last two months of its operation. Where the agreement is for a term of more than two years, application may be made during the twenty-third and twenty-fourth months of its operation or during the two months preceding any anniversary date or the two months preceding the termination of the agreement.

The *Trench Excavators Protection Act* passed in 1954 was amended to provide that a trench must be inspected at least once in each eight-hour period as long as any person is working in or near the trench.

An amendment to the *Workmen's Compensation Act* raised the lump sum payable to the widow immediately on the death of the workman from \$200 to \$300. The allowance for burial expenses was also increased from \$200 to \$300.

Manitoba.—An amendment to the *Labour Relations Act* makes the Act, with some modifications, applicable to specified Crown corporations. The amendment sets up a special procedure for dealing with disputes involving employees of Crown corporations after a conciliation officer has tried and failed to effect a settlement. Employees of Crown corporations are prohibited from going on strike where the Lieutenant-Governor in Council has declared that uninterrupted operations are "essential to the health and well-being of the people of the province, or of some of them". The Corporations brought under the Act are: Manitoba Power Commission, the Manitoba Telephone Commission, the Manitoba Hydro-Electric Board, the Winnipeg Electric Company and the Liquor Control Commission and their employees.

An amendment to the *Workmen's Compensation Act* raises compensation to a widow from \$50 to \$65 a month and that of a child living with the widow from \$20 to \$25 a month. This applies to all widows and children receiving compensation regardless of the date on which the death of the workman occurred.

Saskatchewan.—The *Annual Holidays Act* was amended to increase the minimum annual vacation with pay to three weeks each year after five years of service with one employer. For employees with less than five years of service but with at least one year, the vacation with pay remains at two weeks.

The *Hours of Work Act* was amended to authorize the Lieutenant-Governor in Council to issue regulations applicable to any class of employment limiting working time in any one day to 12 hours. The Act does not set absolute limits on hours of work, but provides that time and one-half must be paid for work after eight hours in a day and 44 hours in a week.

British Columbia.—The application of the *Semi-monthly Payment of Wages Act* was extended by Order in Council in December 1957 to a number of service industries and occupations, wholesale and retail trade, the transportation and taxi-cab industry, and office occupations. The Act previously covered the mining, manufacturing, construction, fishing, and hotel and catering industries, and the outside employees of municipal corporations. It requires employees to be paid, at least as often as semi-monthly, wages earned up to a day not more than eight days prior to date of payment. It covers only employees earning less than \$4,000 under a yearly contract.

Regulations of Wages and Hours of Labour under Industrial Standards Legislation and the Quebec Collective Agreement Act.—The Industrial Standards Acts of Nova Scotia, New Brunswick, Ontario and Saskatchewan and the Labour Act of Alberta provide that wages and hours agreed upon at a conference of representatives of employers and employees, called by the Minister of Labour or his representative, may be made legally binding by Order in Council on the industry in the area concerned. The Nova Scotia Act applies only to construction work at Halifax, Dartmouth and Sydney.

In *Nova Scotia*, 13 schedules of hours and wages for individual building trades were in force during the year ended Mar. 31, 1957.

In *New Brunswick*, four schedules for individual building trades were in force during the year ended Mar. 31, 1957.

In *Quebec*, under the Collective Agreement Act, hours and wages and also apprenticeship, vacations with pay and family allowances provisions, established by a collective agreement voluntarily entered into by employers and unions or groups of employees, may be made legally binding by Order in Council on all employers and employees in the industry in the district covered by the agreement, if the parties are sufficiently representative of the industry. At Mar. 31, 1957, 102 agreements covering 262,177 workers and 27,745 employers had been generalized to apply either throughout the province or to a certain district. The agreements in force throughout the province apply to the following industries: building materials, the manufacture of women's cloaks and suits, dresses, millinery, ladies handbags, men's and boys' clothing, men's and boys' hats and caps, men's and boys' shirts, fine gloves and work gloves, shoes, furniture, paint, corrugated and uncorrugated paper boxes, the tanning industry, the elevator construction industry, and the casket manufacturing industry. Other agreements concern industries in particular cities or parts of the province including all building trades and printing trades in large urban centres and many rural districts.

In *Ontario*, there were 126 wages and hours schedules in force at Mar. 31, 1957. Throughout the province schedules were in effect for cloakmakers, the men's and boys' clothing industry, men's and boys' hats and caps, the millinery industry and the hard furniture industry. In the construction industry 53 schedules, each for a single trade in a single locality, covered one or more trades in 26 zones. Four schedules were in effect for certain zones in the retail gasoline service industry, and barbers had schedules in 64 zones.

In *Manitoba*, Part II of the Fair Wage Act provides similar machinery for fixing wages and hours in any business, trade or undertaking except agriculture. Orders in Council under this legislation have been passed fixing wages and hours in the barbering and hair-dressing trades.

In *Saskatchewan*, 22 schedules were in effect at Mar. 31, 1957. The schedule for barbers covered the whole province; others applied to bakers and bakery salesmen, carpenters, electrical workers, painters, shoe repairers and beauty culture operators in one or more areas.

In *Alberta*, 28 schedules were in effect during 1957. These governed, in one or more areas, bakers and bakery salesmen, certain individual building trades, dairy employees, garage and service-station workers, radio service, laundry and dry-cleaning employees and barbers.

Regulation of Hours and Annual Holidays.—Five provinces—Ontario, Manitoba, Saskatchewan, Alberta and British Columbia—have statutes that either place absolute limits on working hours or require time and one-half the regular rate to be paid if work is continued after specified limits. There is, in addition, an Act of limited application in Quebec. In the provinces that have no special hours-of-work legislation, the only statutory regulation of hours, apart from that described on p. 720 under the Industrial Standards Acts and the Quebec Collective Agreement Act, is that imposed by factories Acts, mines Acts and, in Newfoundland, an Act governing shops. In New Brunswick and Quebec the limits imposed by the factories Acts apply only to women and boys under 18 years of age. Several minimum wage Acts give authority for the regulation of hours as well as of wages.

In Ontario there is a maximum eight-hour day and 48-hour week with certain exceptions. In Alberta the maximum daily and weekly hours in the cities of Calgary, Edmonton, Lethbridge and Medicine Hat are eight and 44; in the remainder of the province they are eight and 48. In British Columbia hours are limited to eight in a day and 44 in a week. In these three provinces the Acts apply to most workers except farm labourers and domestic servants. In Saskatchewan the Act requires time and one-half to be paid for work after eight hours daily and 44 hours weekly and applies to workers in all industries except agriculture and domestic service. A Manitoba Act covering most industrial workers in the province requires time and one-half to be paid for work done after eight hours in a day and after 48 hours in a week for men and 44 hours for women. In all provinces that have Acts regulating hours, longer hours may be worked in an emergency or by permission of the administrative authority.

Seven provinces—Nova Scotia, Quebec, Ontario, Manitoba, Saskatchewan, Alberta and British Columbia—have legislation in effect providing for annual holidays with pay for workers in most industries, and New Brunswick has legislation requiring annual holidays in the mining and construction industries and for fish, fruit and vegetable packers. In all these provinces except British Columbia and Saskatchewan, workers are entitled to a one-week holiday with pay after a year of employment. A two-week holiday is given in British Columbia and Saskatchewan after a year of employment, in Alberta after two years and in Manitoba after three. A three-week holiday is required in Saskatchewan after five years of service with the same employer. A worker employed for less than a year is entitled, in Quebec, to a half-day for each month of employment and, in Saskatchewan, to one day for each month. Coal miners in Alberta are entitled to a one-day holiday with pay for every 20 days worked in a month but not more than two weeks in a year.

Farm workers are excluded from the holiday provisions in all provinces, and domestic servants in all but Manitoba and Saskatchewan. In addition, Quebec exempts forest operations workers, public corporation employees, salesmen, janitors and watchmen, and certain part-time workers. Ontario exempts professional workers, salesmen, and funeral directors and embalmers. Manitoba and Saskatchewan exempt ranch and market garden employees, and British Columbia exempts professional workers and horticultural workers.

Minimum Wage Regulations.—In Nova Scotia the minimum wage law applies only to women. In Ontario, though the Act applies to both sexes, Orders apply only to women. In Newfoundland, New Brunswick, Manitoba, Alberta and British Columbia there are separate Orders for men and women but in British Columbia most Orders cover both sexes. In Quebec and Saskatchewan all Orders apply to both sexes.

Table 1 shows the minimum rates in effect in December 1958 for several classes of establishment in the principal cities. In Newfoundland, New Brunswick, British Columbia and, with respect to men in Manitoba, the rates set are for the entire province. Elsewhere rates vary according to zone.

**1.—Minimum Wage Rates for Experienced Workers in Certain Cities, by Sex,
December 1958**

Item and Type of Establishment		St. John's, Nfld.	Halifax, N.S.	Saint John, N.B.	Montreal, Que.	Toronto, Ont.	Winnipeg, Man.	Regina, Sask.	Edmonton, Alta.	Vancouver, B.C.
Maximum hours per week to which the rates apply.	M. } F. }	48	48	48	48-60 ¹	48	48 44	44	44	44
		cts. per hour	\$ per week	cts. per hour	cts. per hour	\$ per week	cts. per hour	\$ per week	\$ per week	cts. per hour
Factories.....	M. } F. }	50 35	— 21.60	65 ² 50	60 60	— 22	60 58	30 30	30 28	75 60
Laundries, etc.....	M. } F. }	50 35	— 21.60	— 50	60 60	— 22	60 58	30 30	30 28	75 75
Shops.....	M. } F. }	50 35	— 21.60	— 50	60 60	— 22	60 58	30 30	30 28	65 65
Hotels, restaurants, etc.	M. } F. }	50 35	— 21.60	— 45	55 ³ 55	— 22	60 58	30 30	30 28	65 65
Beauty parlours.....	M. } F. }	50 35	— 21.60	— 50	60 60	— 22	60 58	30 30	30 28	35.00 ⁴ 35.00 ⁴
Theatres and amusement places.	M. } F. }	50 35	— 21.60	— 50	60 60	— 22	60 58	30 30	30 28	18.00 ⁴ 18.00 ⁴
Offices.....	M. } F. }	50 35	— 21.60	— 50	60 60	— 22	60 58	30 30	30 28	75 75

¹ Rates apply to 48 or 54 hours in factories; 48 hours in offices; 54 hours in laundries, shops, beauty parlours and theatres; 60 hours in hotels. ² Applies only to canning or processing of fish, vegetables or fruit. ³ Chauffeurs, watchmen, stationary enginemen and firemen 60 cents; bell boys 35 cents. ⁴ Dollars per week.

Section 2.—The Labour Force

The current pace of economic activity in Canada necessitates constant planning and study. To the labour leader, the business man, the social administrator and the legislator, this pace requires a continuous process of plan-revision. To provide up-to-date and reliable information concerning the Canadian labour force, a current and periodic analysis of the state of employment in Canada was organized. A labour force survey, on a sample basis, was conducted in the autumn of 1945 and quarterly surveys were carried on until November 1952, when the survey was placed on a monthly basis. A multi-stage area sample was used involving the selection of progressively smaller sample areas and ultimately of households. Random methods of choice were used at every stage of selection so that all members of the population had an equal chance of inclusion. The present sample covers over 35,000 households in more than 130 different areas of Canada; these include 34 cities having a population of 30,000 or over in 1951 as well as some smaller urban centres and various rural areas. The estimates of the labour force are restricted to the civilian labour force; net strength of the Armed Forces is obtainable directly from official sources. Inmates of institutions and Indians living on reserves are excluded.

The labour force surveys provide a classification of persons 14 years of age or over on the basis of their activity during the week that precedes the beginning of the survey, and who had jobs or were seeking work during the survey week. These divisions of the labour force are defined as follows:—

- (1) **Persons with Jobs.**—This category comprises: (a) *persons at work*—those who did any work for pay or profit or who did unpaid work which contributed to the running of a farm or business operated by a relative; and (b) *persons with jobs but not at work*—those who had jobs but did not work because of illness, bad weather, vacation, industrial dispute or temporary layoff with definite instructions to return to work within 30 days of the time of being laid off. Persons who worked part of the survey week and also looked for work are classed as "persons with jobs".

- (2) **Persons without Jobs and Seeking Work.**—This classification includes those persons who were looking for work during the survey week and did not work. Persons who were temporarily away from their jobs during the whole of the survey week seeking other work were considered as without jobs and were included in this category. In addition to those who were actively looking for work, this classification includes persons who would have looked for work, except that they were temporarily ill, were on indefinite or prolonged layoff, or believed that no work was available.

Information relating to the population 14 years of age or over not in the labour force is also collected. Persons not in the labour force include such groups as those going to school or keeping house in their own homes, persons who are permanently unable to work because of old age or other reason, and persons who are retired or voluntarily idle. Persons such as housewives, students and others who worked part time are classed as "persons with jobs" or, if looking for work, they are classed as "persons without jobs and seeking work".

The estimates derived from the labour force surveys are subject to sampling error. In general the percentage of error tends to decrease as the size of the estimate increases. The chances are about 19 out of 20 that the difference between the estimate and the figure which would have been obtained from a complete count is less than that shown below.

Size of Estimate	Sampling Variability
50,000.....	8,000
100,000.....	11,000
500,000.....	24,000
1,000,000.....	33,000
5,000,000.....	58,000

Data in Table 2 for June 1, 1946 to 1958, are compiled from labour force surveys conducted in late May or early June of those years. The information for years before 1946 is taken from estimates based upon 1931 and 1941 Census material rearranged according to the definitional system used in the labour force surveys, the revised census data being linked with the June 1946 survey on the basis of monthly and annual employment and unemployment figures.

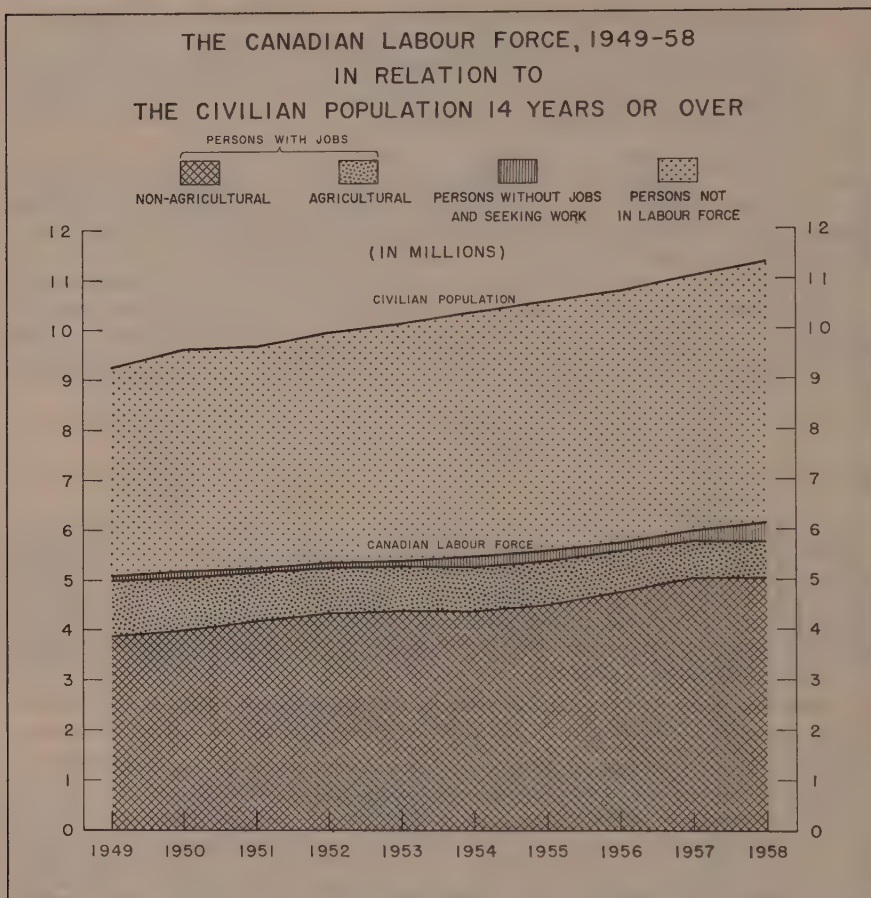
2.—Estimates of the Civilian Labour Force and its Main Components, June 1, 1939-58

NOTE.—Figures do not include persons in institutions and Indians on reserves. Figures for 1951-58 inclusive have been revised since the publication of the 1957-58 Year Book.

Year	Civilian Popu- lation (14 years of age or over)	Civilian Labour Force (14 years of age or over)							Persons not in the Labour Force (14 years of age or over)
		Persons with Jobs					Persons without Jobs and Seeking Work	Total Labour Force	
		Non-agriculture			Agriculture	Total (with jobs)			
		Paid Workers	Other ¹	Total (non-agri- culture)					
	'000	'000	'000	'000	'000	'000	'000	'000	
1939.....	8,122	2,079	662	2,741	1,379	4,120	529	4,649	3,473
1940.....	8,140	2,197	643	2,840	1,344	4,184	423	4,607	3,533
1941.....	8,056	2,566	481	3,047	1,224	4,271	195	4,466	3,590
1942.....	8,085	2,801	494	3,295	1,139	4,434	135	4,569	3,516
1943.....	7,871	2,934	439	3,373	1,118	4,491	76	4,567	3,304
1944.....	7,920	2,976	373	3,349	1,136	4,485	63	4,548	3,372
1945.....	8,048	2,937	366	3,303	1,144	4,447	73	4,520	3,528
1946.....	8,768	2,986	481	3,467	1,271	4,738	124	4,862	3,906
1947.....	8,993	3,139	551	3,690	1,172	4,862	92	4,954	4,039
1948.....	9,123	3,225	543	3,768	1,188	4,954	81	5,035	4,088
1949.....	9,254	3,326	551	3,877	1,114	4,991	101	5,092	4,162
1950 ²	9,610	3,429	561	3,990	1,066	5,056	142	5,198	4,412
1951.....	9,696	3,625	539	4,164	991	5,155	81	5,236	4,460
1952.....	9,933	3,795	517	4,312	927	5,239	105	5,344	4,589
1953.....	10,127	3,842	531	4,373	898	5,271	115	5,386	4,741
1954.....	10,362	3,825	537	4,362	893	5,255	221	5,476	4,886
1955.....	10,571	3,977	521	4,498	873	5,371	214	5,585	4,986
1956.....	10,771	4,219	534	4,753	819	5,572	166	5,738	5,033
1957.....	11,066	4,450	552	5,002	772	5,774	196	5,970	5,096
1958.....	11,333	4,493	518	5,011	739	5,750	370	6,120	5,213

¹ Employers, 'own-account' and unpaid family workers.

² Newfoundland included from 1950.



Main Characteristics of the Civilian Labour Force, 1946-58.—At the beginning of June 1958 the civilian non-institutional population 14 years of age or over was 11,333,000, an increase of 29 p.c. over the June 1, 1946, population of 8,768,000. In the same period the civilian labour force increased 26 p.c. from 4,862,000 to 6,120,000. The proportion of the population 14 years of age or over in the labour force at the beginning of June 1958 was 54.0 p.c. as compared with 55.5 p.c. in June 1946. A higher average school-leaving age and an increased proportion of the population in the age group 65 years or over were mainly responsible for this decrease in the rate of labour-force participation. The effect of these factors was modified by the increased proportion of married women having jobs outside the home.

Persons with jobs increased 21 p.c. to 5,750,000 at the beginning of June 1958 from 4,738,000 in 1946. Employment in agriculture declined continuously over the period from 1,271,000 in 1946 to 739,000 in 1958, a decrease of 42 p.c. Non-agricultural employment, on the other hand, increased 45 p.c. from 3,467,000 in 1946 to 5,011,000 in 1958; paid workers employed in non-agricultural industries increased by 50 p.c. from 1946 to 1958. The number of persons without jobs and seeking work fluctuated over the period; the proportion of the labour force in this category at the beginning of June 1958 was 6.0 p.c. as compared with 2.6 p.c. at June 1, 1946.

The number of persons not in the labour force at the beginning of June 1958 was 5,213,000, a figure 33 p.c. higher than on June 1, 1946. The increase in this category was most marked for students.

While the proportion of males 14 years of age or over in the labour force decreased from an average of 85.2 p.c. in 1946 to 81.7 p.c. in 1958, the proportion of females in the labour force showed an increase over the period from 24.7 p.c. to 26.3 p.c. Of the total females with jobs, an average of 27.2 p.c. in 1946 were married women; this proportion rose steadily year by year, reaching 43.5 p.c. in 1958.

The decline in agricultural employment relative to the population was large for both males and females. In 1946, 23.4 p.c. of the male population 14 years of age or over was employed in agriculture; by 1958 the proportion had dropped to 11.6 p.c. The decrease for females was relatively greater. Both males and females showed increases in the percentage of the population in non-agricultural employment even though for males the labour force participation rate decreased and the percentage of persons without jobs and seeking work doubled. The proportion of males not in the labour force increased from 14.8 p.c. in 1946 to 18.3 p.c. in 1958; students advanced from 5.5 p.c. to 6.8 p.c. during the period. For females, the proportion not in the labour force decreased from 75.3 p.c. in 1946 to 73.7 p.c. in 1958. Females keeping house increased from 63.2 p.c. in 1946 to 66.7 p.c. in 1953 and then dropped back to 63.2 p.c. by 1958. Females attending school increased over the period from 5.1 p.c. to 6.1 p.c. while the remainder of the category decreased from 7.0 p.c. to 4.4 p.c.

In 1946, 14.1 p.c. of the males and 14.4 p.c. of the females 14 years of age or over were in the 14-to-19-year age group. These percentages decreased gradually for five years, held steady for some time and in the following two years gave indication of increasing in line with the wartime increase in the birth rate. The proportion of males and females aged 65 years or over increased from under 10 p.c. in 1946 to about 11 p.c. in 1958, but there was little change during the period in the relative size of the 20-to-64-year group.

3.—Percentage Distribution of the Population 14 Years of Age or Over in Labour Force and Non-labour Force Categories, by Sex, 1946-58

NOTE.—Percentages are annual averages; those for 1946-52, inclusive, are based on estimates from quarterly surveys and those for 1953-58 on monthly estimates.

Sex and Year	Popu- lation (14 years or over)	Labour Force				Not in Labour Force			
		With Jobs		Without Jobs and Seeking Work	Total	Females Keeping House	Persons Going to School	Other ¹	Total
		Agri- culture	Non- agri- culture						
Males—									
1946.....	100.0	23.4	59.0	2.8	85.2	...	5.5	9.3	14.8
1947.....	100.0	21.5	61.8	1.8	85.1	...	5.3	9.6	14.9
1948.....	100.0	21.1	62.1	1.9	85.1	...	5.2	9.7	14.9
1949.....	100.0	20.9	61.8	2.4	85.1	...	5.0	9.9	14.9
1950.....	100.0	19.5	61.6	2.9	84.0	...	5.1	10.9	16.0
1951.....	100.0	17.8	64.3	1.8	83.9	...	5.0	11.1	16.1
1952.....	100.0	16.6	64.6	2.2	83.4	...	5.4	11.2	16.6
1953.....	100.0	16.1	64.4	2.4	82.9	...	5.6	11.5	17.1
1954.....	100.0	16.2	62.0	4.0	82.2	...	5.8	12.0	17.8
1955.....	100.0	14.8	63.5	3.8	82.1	...	6.0	11.9	17.9
1956.....	100.0	13.6	65.7	2.9	82.2	...	6.2	11.6	17.8
1957.....	100.0	12.7	65.5	4.1	82.3	...	6.3	11.4	17.7
1958.....	100.0	11.6	63.8	6.3	81.7	...	6.8	11.5	18.3
Females—									
1946.....	100.0	3.6	20.6	0.5	24.7	63.2	5.1	7.0	75.3
1947.....	100.0	3.2	20.5	0.4	24.1	64.7	5.0	6.2	75.9
1948.....	100.0	2.7	20.4	0.4	23.5	65.3	5.2	6.0	76.5
1949.....	100.0	2.2	21.0	0.4	23.6	65.9	4.9	5.6	76.4
1950.....	100.0	1.6	21.1	0.5	23.2	65.9	5.0	5.9	76.8

¹Includes mainly retired persons, persons voluntarily idle, and persons permanently unable or too old to work.

3.—Percentage Distribution of the Population 14 Years of Age or Over in Labour Force and Non-labour Force Categories, by Sex, 1946-58—Concluded

Sex and Year	Population (14 years or over)	Labour Force				Not in Labour Force			
		With Jobs		Without Jobs and Seeking Work	Total	Females Keeping House	Persons Going to School	Other ¹	Total
		Agri- culture	Non- agri- culture						
Females—concl.									
1951.....	100.0	1.5	21.6	0.4	23.5	66.1	4.9	5.5	76.5
1952.....	100.0	1.3	22.0	0.4	23.7	65.7	4.9	5.7	76.3
1953.....	100.0	0.8	22.3	0.3	23.4	66.7	5.3	4.6	76.6
1954.....	100.0	0.8	22.3	0.6	23.7	66.5	5.3	4.5	76.3
1955.....	100.0	0.7	22.6	0.6	23.9	66.0	5.5	4.6	76.1
1956.....	100.0	0.7	23.7	0.5	24.9	64.9	5.5	4.7	75.1
1957.....	100.0	0.7	24.6	0.5	25.8	63.9	5.7	4.6	74.2
1958.....	100.0	0.9	24.5	0.9	26.3	63.2	6.1	4.4	73.7

¹ Includes mainly retired persons, persons voluntarily idle, and persons permanently unable or too old to work.

4.—Percentage Distribution of the Population 14 Years of Age or Over in the Labour Force, by Age Group and Sex, 1946-58

(See headnote to Table 3.)

Year	Males				Females			
	14-19 Years	20-64 Years	65 Years or Over	All Ages	14-19 Years	20-64 Years	65 Years or Over	All Ages
1946.....	14.1	76.1	9.8	100.0	14.4	76.1	9.5	100.0
1947.....	13.8	76.3	9.9	100.0	14.0	76.2	9.8	100.0
1948.....	13.5	76.3	10.2	100.0	13.6	76.4	10.0	100.0
1949.....	13.2	76.3	10.5	100.0	13.3	76.5	10.2	100.0
1950.....	13.1	76.2	10.7	100.0	13.1	76.5	10.4	100.0
1951.....	12.8	76.3	10.9	100.0	12.8	76.6	10.6	100.0
1952.....	12.7	76.3	11.0	100.0	12.7	76.6	10.7	100.0
1953.....	12.7	76.3	11.0	100.0	12.6	76.6	10.8	100.0
1954.....	12.7	76.2	11.1	100.0	12.6	76.5	10.9	100.0
1955.....	12.7	76.2	11.1	100.0	12.7	76.3	11.0	100.0
1956.....	12.8	76.1	11.1	100.0	12.8	76.1	11.1	100.0
1957.....	13.1	76.0	10.9	100.0	13.0	75.9	11.1	100.0
1958.....	13.5	75.7	10.8	100.0	13.3	75.6	11.1	100.0

5.—Percentages of Females with Jobs, Married and Other Than Married, in Agriculture, in Non-agriculture, and in All Industries, 1946-58

(See headnote to Table 3.)

Year	Agriculture			Non-agriculture			All Industries		
	Married	Other	Total	Married	Other	Total	Married	Other	Total
1946.....	54.2	45.8	100.0	22.5	77.5	100.0	27.2	72.8	100.0
1947.....	53.1	46.9	100.0	22.4	77.6	100.0	26.6	73.4	100.0
1948.....	56.5	43.5	100.0	23.7	76.3	100.0	27.5	72.5	100.0
1949.....	55.3	44.7	100.0	25.1	74.9	100.0	28.0	72.0	100.0
1950.....	59.6	40.4	100.0	26.8	73.2	100.0	29.1	70.9	100.0
1951.....	61.7	38.3	100.0	28.2	71.8	100.0	30.3	69.7	100.0
1952.....	60.5	39.5	100.0	30.0	70.0	100.0	31.7	68.3	100.0
1953.....	51.3	48.7	100.0	32.8	67.2	100.0	33.5	66.5	100.0
1954.....	52.9	47.1	100.0	34.8	65.2	100.0	35.4	64.6	100.0
1955.....	50.8	49.2	100.0	37.0	63.0	100.0	37.4	62.6	100.0
1956.....	57.3	42.7	100.0	38.8	61.2	100.0	39.3	60.7	100.0
1957.....	59.5	40.5	100.0	40.6	59.4	100.0	41.1	58.9	100.0
1958.....	67.8	32.2	100.0	42.6	57.4	100.0	43.5	56.5	100.0

Section 3.—Employment, Earnings and Hours*

Subsection 1.—Historical Commentary

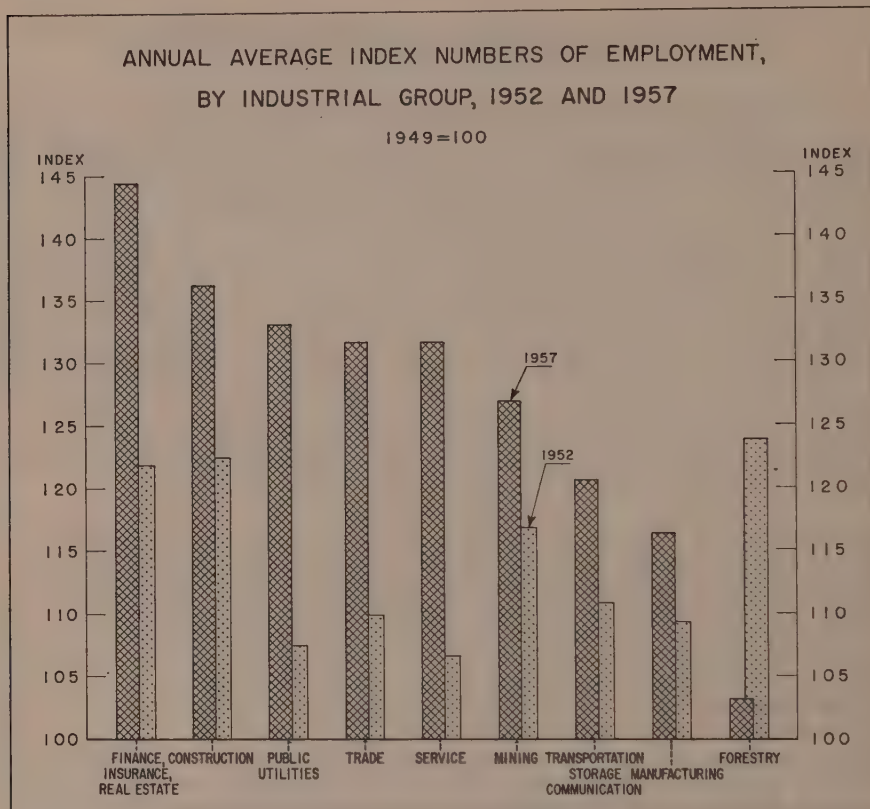
Monthly reports on employment have been furnished for many years to the Dominion Bureau of Statistics by establishments usually employing 15 persons or over in the following major industrial divisions: forestry; mining; manufacturing; construction; transportation, storage and communication; public utility operation; trade; finance, insurance and real estate; and certain branches of the service industry, mainly hotels and restaurants, laundries and dry-cleaning plants, recreational and business services. The surveys relate to all sectors of the eight industrial divisions first named. To supplement the employment record that goes back to 1921, monthly statistics of weekly payroll disbursements have been collected since 1941, permitting calculation of per capita weekly wages and salaries. Subsequently, these series were carried back, on an annual basis only, to 1939. The current survey was further extended in the late months of the War to include information on earnings and hours of wage-earners for whom industrial establishments can furnish statistics of hours actually worked and paid for during periods of absence. Commencing in 1946, monthly figures of employment have been published separately for men and women. Additional and more detailed data on earnings and hours of work of both wage-earners and salaried employees are collected annually from manufacturers for one week in the autumn; this series yields separate figures for men and women in the two categories.

The statistics obtained monthly since 1941 relate to all paid workers on the staffs of respondents and their pay for services rendered or during absence-with-pay in their last pay periods in the month, except that casual employees on strength for less than one day in the pay period are omitted. Statistics for owners are excluded by definition, even though they receive part of the return on their investment in the form of salaries. The earnings include wage and salary payments for straight-time and overtime work, shift differentials, regularly paid production, incentive and cost-of-living bonuses and commissions. Payrolls and hours reported for periods exceeding one week are reduced to weekly equivalents.

Although the surveys are restricted to establishments usually employing 15 persons or more, they include high but variable proportions of all paid workers at work in the covered industries as enumerated in the 1951 Census. The estimates of coverage range from 45 p.c. in the included service groups to 92 p.c. in manufacturing and 96 p.c. in mining, with the industrial composite figure relating to 79 p.c. of the total number in the industries surveyed. It is also estimated that the establishments contributing to the monthly record employed 62 p.c. of the total number of paid workers enumerated in all industries, including those in agriculture, fishing and trapping, education, health, government and other services excluded from the surveys, as well as employees of small establishments in the covered industries for which monthly data cannot be obtained.

Industrial employment, payrolls and per capita earnings generally reached all-time high levels in 1957, although evidences of weakness in some fields as compared with recently preceding years then became apparent, particularly in the latter months. The annual index of employment (1949=100) was 122.9, having risen almost without interruption from 1939 when the figure was 60.1. The increase in payrolls in the same period was even more noteworthy. The 1957 index (also on the 1949 base) was 194.5, greatly exceeding that of 32.9 in 1939. Average weekly wages and salaries mounted from \$23.44 in that year to \$67.70 in 1957, or by almost 289 p.c., while the consumer price index advanced from 63.2 to 121.9 in 1957. Income tax rates also increased substantially. The upward movement in employment and earnings during the 18-year period extended in greater or lesser degree to all industries surveyed and to all areas. The increase in employment in manufacturing was nearly 107 p.c., and that in the durable goods component, 171 p.c. Particularly impressive advances from 1939 took place in public utility operation, construction, services and trade. The gains in the period generally are associated not only with a rising standard of living but also with a growing population.

* Prepared in the Employment Section, Labour Division, Dominion Bureau of Statistics.



Index numbers of industrial employment are available for men and women separately since 1949. The generally upward movement to 1957 extended to both sexes, interrupted only in 1954 when the figure for men fell from 1953 by 4.1 points to 109.8, and for women by 1.7 points to 109.9. During most of the period, the growth of employment for men was relatively larger than for women, but in 1957 the index for the latter averaged 123.6 as against 122.7 for men. Differences in the levels of activity in industries employing larger or smaller proportions of men and women are mainly responsible for the moderate variations shown in the indexes for the two sexes.

A monthly record of average hourly and weekly wages of hourly rated wage-earners has been available since the beginning of 1945. Since then, substantial increases in the averages have taken place in all industries and areas, accompanied by widespread declines in the length of the work week. Particularly marked reductions in hours have taken place in manufacturing, in which overtime was an important factor during the war years. A notable exception to the general lowering in the averages of hours worked as compared with 1945 is the construction industry, which had been adversely affected in the early months of the man-hours and hourly earnings record by shortages of labour and materials.

From 1945 to 1957, average hourly earnings in manufacturing have risen by 131 p.c. to \$1.60. Although the 1957 average in plants producing non-durable manufactured goods was lower at \$1.47 than the figure of \$1.73 in the durable goods group, it may be noted that, since the record was established, the increase in the former amounted to 141 p.c. as compared with 125 p.c. in the latter. This disparity in rate of gain was caused

in part by marked expansion in employment in the interval in the higher-pay components of the light manufacturing industries, such as oil refining, pulp and paper products and printing and publishing.

Subsection 2.—Employment and Weekly Earnings, 1957

The 1957 average index numbers of industrial employment and payrolls were 2.3 p.c. and 7.8 p.c., respectively, above those for 1956, previously the maximum figures. However, the trend in both indexes had turned downward towards the end of the year and employment at Dec. 1 in the establishments surveyed was 2.5 p.c. below the level of 12 months earlier, although it was higher than in the same period in 1955 and earlier years. With the weakening of employment, the underlying movement of the general payroll figure was downward in the latter part of 1957; the Dec. 1 index exceeded that for 1956 by only 2 p.c. while at the beginning of the year it had been more than 11 p.c. higher.

Average weekly wages and salaries rose by 5.5 p.c. in 1957 over 1956, reaching an all-time high of \$67.70. The increase was about average for the postwar years and equalled that of 1956 over 1955. In terms of purchasing power, however, the rise in weekly earnings in 1957 was little more than half as great as the increase between 1955 and 1956, consumer prices having increased more sharply in the later period.

Employment for women showed a larger percentage increase in 1957 than was reported for men, the general index for the latter rising 1.8 p.c. and for women 3.9 p.c. over 1956. In manufacturing, the gains for workers of the two sexes differed only slightly. On the whole, women made up 22.6 p.c. of the reported staffs in 1957, a fractionally higher proportion than in immediately preceding years.

Employment by Industry.—Employment in most divisions of the goods-producing industries rose slightly in the early months of 1957 but the trend turned downward in all divisions except mining before the end of the year. On the other hand, the general movement in the service-producing category continued upward throughout 1957.

The timing of the cyclical downturns in activity in the goods-producing divisions differed from industry to industry. The durable goods sector of manufacturing was the first to show declines. The peak in the seasonally adjusted employment index was reached towards the end of 1956, followed by declines throughout 1957. By Dec. 1, employment in durables was 6 p.c. below the level of a year earlier. Staffs declined throughout 1957 in the electrical apparatus, wood, and iron and steel groups but the trend in transportation equipment did not move definitely downward until the autumn. The Dec. 1 figure was 5 p.c. lower than at the same date of 1956. Non-ferrous metal and non-metallic mineral products also showed small year-to-year reductions in employment at the end of 1957.

The curtailment in plants producing non-durable manufactured goods came later than the recession in the durable goods sector. Employment in the group as a whole in the first seven months of 1957 rose slightly from the levels reached in the latter part of 1956, the downturn occurring late in the summer. The declines in three component groups of the non-durable division (rubber, textile and paper products) began earlier, however, and employment in these industries was 7 p.c. or 8 p.c. lower at Dec. 1, 1957, than at the same date of 1956. Late in the year, a larger-than-seasonal decline was reported in clothing. The trend of employment in chemical and petroleum and coal products also turned downward late in 1957 but the Dec. 1 indexes for these industries were higher than a year earlier. Little change was recorded in the 1957 basic situation in foods and beverages, leather goods, printing and publishing and miscellaneous manufacturing groups, with most variations of consequence explicable in terms of seasonal factors.

Mining was the only industry division in the goods-producing class in which employment showed no definite downturn during 1957. Employment in the metal mining group tended to rise, mainly because of the doubling of employment in uranium mining during the year. There were substantial declines in the numbers employed in diamond drilling and prospecting in the metals field. In fuels, oil and natural gas, staffs declined less than is usual in the autumn. Employment in coal mining, which has been declining for many

years, tended to drop early in 1957 but was steady except for seasonal variations in the latter part of the year. Employment in non-metal mining turned downwards in the later months of 1957.

In the service-producing industries, moderate increases in employment were recorded for public utilities, trade, services, and finance, insurance and real estate. Employment in transportation, storage and communication continued slightly above 1956 levels for the greater part of 1957 but dropped off towards the end of the year.

Employment of Women.—The percentage of women in the work forces of larger establishments was higher in 1957 than in any year of the previous decade, although it was considerably lower than in some war years. In general, women form a smaller proportion of the work force in goods-producing than in service-producing industries, and the greater strength of the latter contributed to the rise in the percentage of women employees in 1957. Employment among women increased by 1 p.c. from Dec. 1, 1956 to Dec. 1, 1957, as compared with a decrease of 4 p.c. in the employment of men during the same period.

6.—Annual Average Index Numbers of Employment by Industrial Group 1948-57, and Monthly Indexes 1956 and 1957

NOTE.—These indexes are calculated as at the first day of each month, on the base 1949=100.

Year	Forestry (chiefly log- ging)	Mining	Manu- factur- ing	Con- struc- tion	Trans- porta- tion, Storage and Com- muni- cation	Public Utility Oper- ation	Trade	Finance, Insur- ance and Real Estate	Service ¹	Indus- trial Com- posite
Averages—										
1948.....	138.4	97.2	100.1	95.4	99.0	89.0	96.5	96.0	99.1	99.7
1949 ²	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1950.....	100.8	105.5	100.9	102.4	99.9	101.3	103.2	105.4	101.0	101.5
1951.....	138.6	110.6	108.0	110.2	106.1	103.4	107.4	115.2	103.1	108.8
1952.....	123.9	116.8	109.3	122.5	110.9	107.5	109.9	121.9	106.6	111.6
1953.....	100.0	111.7	113.3	118.6	111.3	112.1	113.2	122.4	108.7	113.4
1954.....	95.1	109.8	107.7	110.7	109.0	115.7	114.6	127.4	111.4	109.9
1955.....	101.8	113.4	109.3	114.9	110.5	118.9	118.1	132.0	114.5	112.5
1956.....	113.3	122.0	115.4	130.8	117.7	125.7	125.5	136.4	124.4	120.1
1957.....	103.2	126.9	116.3	136.2	120.6	133.1	131.6	144.4	131.6	122.9
1956—										
Jan. 1.....	134.4	114.4	109.8	105.1	111.3	119.8	129.0	132.0	115.4	114.6
Feb. 1.....	115.6	114.4	110.2	102.9	109.4	119.3	119.1	132.3	115.2	112.3
Mar. 1.....	109.5	115.9	112.3	101.9	110.0	118.6	118.7	133.9	115.9	113.2
Apr. 1.....	84.2	117.3	113.4	101.4	111.2	118.4	121.1	134.6	117.8	113.5
May 1.....	66.6	116.9	114.1	115.0	114.3	121.4	122.0	135.1	120.1	115.2
June 1.....	95.2	123.0	115.4	133.1	118.5	125.2	124.0	135.6	124.7	119.7
July 1.....	112.2	126.1	118.0	151.5	121.3	128.8	126.0	136.8	130.9	124.2
Aug. 1.....	114.0	128.2	117.9	156.3	124.9	132.0	125.2	137.5	134.4	125.4
Sept. 1.....	116.8	128.6	118.0	156.6	124.7	134.4	125.8	137.7	134.4	125.7
Oct. 1.....	127.2	126.5	118.6	152.2	123.2	131.3	129.4	140.5	129.0	125.9
Nov. 1.....	137.9	126.9	118.6	151.5	121.9	129.9	131.1	140.4	127.8	126.2
Dec. 1.....	145.8	125.4	118.0	142.5	121.5	129.2	135.0	140.5	126.8	125.7
1957—										
Jan. 1.....	133.5	122.7	114.8	117.1	118.6	126.8	138.0	140.2	124.7	121.4
Feb. 1.....	116.8	124.1	115.1	113.9	114.7	125.4	126.5	140.2	124.9	118.6
Mar. 1.....	108.4	124.7	115.0	112.7	113.8	124.0	126.1	141.3	125.1	118.1
Apr. 1.....	82.4	123.4	115.4	115.3	114.0	125.1	127.4	142.1	126.7	118.0
May 1.....	62.0	120.8	115.8	125.4	118.3	129.5	129.4	143.8	127.9	119.4
June 1.....	93.6	126.3	116.7	143.2	121.8	134.7	130.6	143.4	132.1	123.5
July 1.....	115.4	129.5	118.4	151.7	124.4	136.3	132.0	144.1	137.3	126.6
Aug. 1.....	113.0	131.7	118.1	158.4	127.4	139.9	130.9	144.9	140.8	127.6
Sept. 1.....	103.0	132.5	118.5	158.0	127.2	142.0	131.0	147.7	140.8	127.6
Oct. 1.....	109.6	130.0	118.1	153.5	124.4	139.3	133.3	148.6	136.3	126.9
Nov. 1.....	107.2	129.2	116.2	148.6	122.7	137.9	134.6	148.3	132.7	125.2
Dec. 1.....	93.9	128.1	113.3	136.9	119.9	135.8	138.9	148.3	130.4	122.5
Percentage distribution in 1957 ³	2.6	4.1	43.6	9.9	13.4	2.0	15.1	4.9	4.4	100.0

¹ Consists mainly of hotels, restaurants, laundries, dry-cleaning establishments and business and recreational services.

² Newfoundland included from 1949.

³ The proportion of employees reported in the industries, to the total reported by all employers making returns in Canada (12-month average).

7.—Annual Average Index Numbers of Employment, by Industrial Division and Group, 1939 and 1953-57

NOTE.—These indexes are calculated as at the first day of each month, on the base 1949=100.

Industry	1939	1953	1954	1955	1956	1957
Forestry (chiefly logging).....	59.3	100.0	95.1	101.8	113.3	103.2
Mining.....	93.7	111.7	109.8	113.4	122.0	126.9
Metal mining.....	100.8	112.0	111.3	116.8	126.0	135.5
Gold.....	132.5	83.6	80.6	81.2	76.5	77.1
Other metal.....	66.9	137.6	139.9	150.1	171.9	190.0
Fuels.....	90.8	105.8	101.4	102.7	109.8	109.9
Coal.....	103.3	83.8	76.8	70.3	67.6	61.8
Oil and natural gas.....	42.5	177.1	183.0	209.4	253.8	286.2
Non-metal.....	72.6	130.7	129.0	131.3	141.3	139.5
Manufacturing.....	56.3	113.3	107.7	109.3	115.4	116.3
Foods and beverages.....	63.3	104.6	105.6	106.8	109.4	111.4
Meat products.....	60.8	113.8	113.8	117.8	123.6	124.5
Dairy products.....	61.3	103.6	107.4	106.9	109.0	113.9
Canned and cured fish.....	72.3	94.1	107.2	114.6	114.2	113.7
Canned and preserved fruits and vegetables.....	65.6	103.9	104.9	106.6	108.8	117.1
Grain mill products.....	62.0	102.7	104.7	105.1	103.1	103.7
Bread and other bakery products.....	68.8	106.0	103.6	107.0	108.8	109.2
Biscuits and crackers.....	..	97.9	95.8	93.9	93.9	93.9
Distilled and malt liquors.....	48.7	104.2	106.4	105.4	108.7	106.8
Other beverages.....	56.0	109.4	110.3	112.7	120.4	125.2
Confectionery.....	..	90.1	87.6	83.1	87.1	90.8
Tobacco and tobacco products.....	87.4	86.6	87.0	89.7	88.3	92.8
Rubber products.....	69.3	109.2	102.2	108.8	114.1	111.1
Leather products.....	81.0	96.6	88.4	86.4	89.6	88.8
Boots and shoes (except rubber).....	81.4	97.5	91.2	89.2	92.6	92.9
Other leather products.....	80.5	95.2	83.1	81.3	84.2	81.3
Textile products (except clothing).....	67.9	94.5	80.6	84.8	86.8	85.1
Cotton yarn and broad woven goods.....	86.4	95.3	79.7	85.8	88.2	84.3
Woolen goods.....	66.8	85.6	67.6	71.4	74.3	71.3
Synthetic textiles and silk.....	49.0	95.6	82.3	87.1	85.8	85.6
Clothing (textile and fur).....	71.3	101.7	91.9	91.5	94.2	94.4
Men's clothing.....	69.3	106.8	95.8	95.7	100.8	100.6
Women's clothing.....	65.0	100.5	94.8	92.4	92.9	94.3
Knit goods.....	82.5	91.4	80.4	79.9	81.8	81.5
Fur goods.....	63.2	91.5	76.6	75.2	69.5	69.9
Hats and caps.....	98.1	96.5	89.6	87.6	83.7	83.2
Wood products.....	60.7	105.5	100.8	106.7	110.4	106.3
Saw and planing mills.....	59.5	106.7	102.3	110.4	112.6	105.8
Furniture.....	61.3	106.9	102.8	105.4	111.5	112.8
Other wood products.....	64.6	98.2	90.5	92.3	98.4	95.7
Paper products.....	58.8	109.8	114.5	117.8	123.5	124.1
Pulp and paper mills.....	62.5	111.3	117.5	121.1	126.1	125.4
Other paper products.....	50.2	106.2	107.2	109.5	117.0	120.9
Printing, publishing and allied industries.....	66.1	106.8	109.7	111.7	114.9	119.4
Iron and steel products.....	45.6	111.8	100.5	102.0	111.8	114.0
Agricultural implements.....	28.7	83.8	65.1	66.6	59.8	59.2
Boilers and plate work.....	48.1	121.5	111.9	109.7	115.5	126.6
Fabricated and structural steel.....	39.1	137.1	127.5	127.5	151.4	174.0
Hardware and tools.....	60.5	108.7	100.9	101.8	107.7	98.5
Heating and cooking appliances.....	54.0	96.9	94.8	97.6	106.0	101.9
Iron castings.....	42.6	100.7	88.9	94.3	107.1	105.9
Machinery manufacturing.....	41.6	115.8	109.4	108.2	121.0	126.0
Primary iron and steel.....	54.1	119.3	98.9	107.2	122.4	125.4
Sheet metal products.....	49.6	110.3	106.1	106.3	113.1	110.8
Wire and wire products.....	68.8	100.2	96.8	101.2	115.6	118.9
Transportation equipment.....	45.9	153.0	136.3	130.4	140.0	143.2
Aircraft and parts.....	31.6	386.2	357.3	328.5	350.1	389.5
Motor vehicles.....	45.6	119.7	105.8	119.2	131.8	127.4
Motor vehicle parts and accessories.....	45.6	131.9	106.9	113.0	117.6	114.3
Railroad and rolling-stock equipment.....	56.9	110.3	95.2	83.3	92.8	92.5
Shipbuilding and repairing.....	28.9	173.5	161.2	138.6	147.8	155.4
Non-ferrous metal products.....	48.6	118.1	117.1	124.6	132.0	128.6
Aluminum products.....	23.3	126.9	119.6	126.6	137.7	138.0
Brass and copper products.....	48.9	108.7	103.9	105.7	112.4	108.0
Smelting and refining.....	59.8	129.6	133.2	147.5	155.7	151.0
Electrical apparatus and supplies.....	37.4	135.4	133.7	136.4	151.4	151.5
Non-metallic mineral products.....	46.2	113.5	114.8	122.4	133.7	132.7
Clay products.....	48.2	102.5	101.9	106.5	113.0	102.9
Glass and glass products.....	46.3	117.0	118.1	126.0	134.3	132.6
Products of petroleum and coal.....	65.6	119.4	120.8	125.0	132.9	139.6

7.—Annual Average Index Numbers of Employment, by Industrial Division and Group, 1939 and 1953-57—concluded

Industry	1939	1953	1954	1955	1956	1957
Manufacturing—concluded						
Chemical products.....	47.6	116.9	120.9	121.9	127.3	133.0
Medicinal and pharmaceutical preparations.....	47.0	104.7	107.3	110.1	115.5	116.9
Acids, alkalies and salts.....	50.7	120.8	120.5	125.6	132.3	145.3
Other chemical products.....		118.7	124.3	124.0	129.2	134.2
Miscellaneous manufacturing industries.....	50.2	107.1	105.3	102.5	108.3	113.4
Construction	62.0	118.6	110.7	114.9	130.8	136.2
Buildings and structures.....	29.3	128.2	115.8	117.4	138.7	145.5
Highways, bridges and streets.....	110.5	98.3	102.4	111.1	118.3	121.5
Transportation, Storage and Communication	59.8	111.3	109.0	110.5	117.7	120.6
Transportation.....	62.4	109.3	105.2	105.7	111.4	112.2
Air transporting and airports.....	18.5	138.9	153.9	169.4	183.7	190.7
Railways.....	65.9	110.3	103.9	103.3	108.6	108.4
Maintenance of equipment.....	55.1	120.7	111.4	107.3	111.0	107.7
Maintenance of ways and structures.....	69.9	102.2	91.8	91.6	100.7	102.8
Transportation—railways.....	66.5	110.1	105.9	105.9	110.3	109.2
Telegraphs.....	65.4	124.4	119.6	117.9	119.5	126.3
Water transportation.....	63.2	99.3	95.4	95.8	101.4	100.4
Electric and motor transportation.....		107.1	109.9	112.4	118.4	123.4
Urban and interurban transportation.....	56.3	93.4	92.1	89.2	87.5	86.6
Truck transportation.....	54.1	136.8	142.5	155.5	173.6	188.8
Storage.....	73.9	112.2	108.6	107.6	115.6	116.2
Grain elevators.....	79.2	111.9	106.6	104.7	107.6	104.5
Storage and warehouses.....	55.2	112.4	114.9	116.8	139.6	151.0
Communication.....	41.2	121.4	129.0	136.9	151.4	166.2
Radio broadcasting.....		138.0	171.7	212.5	261.5	293.2
Telephone.....	41.3	119.7	125.6	130.6	142.0	154.9
Public Utility Operation	54.9	112.1	115.7	118.9	125.7	133.1
Electric light and power.....	53.1	115.4	118.6	121.5	127.3	133.5
Other public utilities.....	70.0	87.0	98.4	104.9	117.2	131.2
Trade	61.5	113.2	114.6	118.1	125.5	131.6
Wholesale.....	60.2	116.1	116.9	120.2	127.4	133.1
Retail.....	62.3	111.8	113.4	117.1	124.6	130.8
Finance, Insurance and Real Estate	67.8	122.4	127.4	132.0	136.4	144.4
Banking, investment and loan.....	62.9	125.8	131.9	136.7	139.7	147.8
Insurance.....	75.7	116.2	119.7	123.6	128.7	136.3
Service	56.8	108.7	111.4	114.5	124.4	131.6
Hotels and restaurants.....	55.4	104.4	107.6	109.9	119.4	125.6
Laundries and dry-cleaning plants.....	63.1	101.4	102.6	104.7	109.6	113.8
Other service.....		133.3	139.0	145.3	160.8	174.5
Industrial Composite	60.1	113.4	109.9	112.5	120.1	122.9

8.—Annual Average Index Numbers of Employment by Province 1948-57, and Monthly Indexes 1956 and 1957

NOTE.—These indexes are calculated as at the first day of each month, on the base 1949=100.

Year	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Canada
Averages—											
1948.....	..	102.6	99.6	105.2	101.2	98.9	97.2	99.5	93.7	101.3	99.7
1949.....	..	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1950.....	..	110.3	95.6	102.6	100.5	102.7	100.8	100.8	104.5	100.8	101.5
1951.....	111.7	112.6	100.3	109.0	109.2	110.4	103.9	106.0	112.4	108.1	108.8
1952.....	130.2	123.2	104.0	109.5	113.4	112.0	106.0	111.4	120.8	106.7	111.6
1953.....	140.9	116.4	101.2	101.4	112.8	114.7	107.2	116.0	128.5	108.4	113.4
1954.....	128.2	110.1	97.7	97.8	109.2	110.9	104.8	118.0	127.6	106.2	109.9
1955.....	131.0	113.3	96.8	103.1	112.0	113.0	105.0	117.2	132.6	111.3	112.5
1956.....	136.9	117.7	101.7	109.9	119.6	120.7	108.3	120.4	147.3	120.9	120.1
1957.....	130.8	115.4	100.5	104.8	121.9	124.6	111.1	125.2	152.4	124.5	122.9

¹Newfoundland included from 1949.

8.—Annual Average Index Numbers of Employment by Province 1948-57, and Monthly Indexes 1956 and 1957—concluded

Year	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Canada
1956—											
Jan. 1.....	125.1	113.4	99.5	107.4	115.6	115.3	105.2	113.3	133.6	111.4	114.6
Feb. 1.....	122.7	108.4	96.9	108.2	112.5	113.5	103.2	107.9	132.2	109.1	112.3
Mar. 1.....	119.5	125.7	100.4	105.4	112.1	115.5	102.8	107.1	132.0	110.9	113.2
Apr. 1.....	117.7	105.7	95.2	102.0	111.4	116.7	102.9	108.3	134.4	113.2	113.5
May 1.....	119.4	102.3	93.7	99.0	113.3	118.3	103.8	111.9	136.7	117.5	115.2
June 1.....	133.5	111.9	101.7	107.5	117.4	121.2	107.1	122.4	148.5	122.1	119.7
July 1.....	147.2	118.9	105.1	115.8	124.3	123.7	110.7	127.6	155.9	125.1	124.2
Aug. 1.....	153.8	122.6	105.9	116.5	124.2	124.1	113.0	130.7	162.7	129.0	125.4
Sept. 1.....	156.1	127.3	106.9	116.7	125.2	123.4	113.8	131.0	162.5	131.1	125.7
Oct. 1.....	154.6	127.3	104.6	113.9	126.1	124.7	113.0	129.7	158.3	130.0	125.9
Nov. 1.....	151.2	126.6	105.7	112.8	126.5	126.0	112.2	128.7	155.6	127.6	126.2
Dec. 1.....	142.5	122.2	104.7	114.1	127.0	126.0	111.5	126.6	154.7	124.0	125.7
1957—											
Jan. 1.....	124.4	109.6	99.6	109.4	121.0	123.5	109.2	120.7	148.7	118.8	121.4
Feb. 1.....	119.7	113.2	99.9	106.4	118.0	121.5	106.1	113.6	145.4	113.9	118.6
Mar. 1.....	118.0	95.5	97.8	103.3	117.6	120.9	106.1	112.6	144.2	115.9	118.1
Apr. 1.....	112.5	97.6	94.8	100.4	116.2	121.4	106.0	112.6	143.9	119.2	118.0
May 1.....	118.1	103.7	95.0	96.1	117.2	123.0	107.4	115.7	143.7	123.1	119.4
June 1.....	128.5	117.1	102.4	104.2	121.1	125.5	111.7	126.7	151.9	127.5	123.5
July 1.....	144.5	122.2	104.7	108.4	125.0	127.6	113.9	132.3	157.7	130.3	126.6
Aug. 1.....	150.2	125.2	105.1	109.8	125.0	127.7	116.3	136.9	163.0	133.9	127.6
Sept. 1.....	144.7	129.9	104.7	109.0	125.5	127.3	115.9	137.0	162.6	135.5	127.6
Oct. 1.....	142.2	127.4	102.0	106.1	126.9	126.3	115.4	134.7	160.6	132.1	126.9
Nov. 1.....	138.8	126.1	100.8	103.1	126.0	125.5	113.9	132.1	155.3	126.2	125.2
Dec. 1.....	127.8	117.4	99.3	101.1	122.9	124.6	110.9	128.1	151.6	118.1	122.5
Percentage distribution in 1957 ¹	1.4	0.2	3.1	2.3	28.4	42.6	4.8	2.4	5.5	9.3	100.0

¹ The proportion of employees reported in the provinces to the total reported by all employers making returns in Canada (12-month average).

9.—Annual Average Index Numbers of Employment by Metropolitan Area 1948-57, and Monthly Indexes 1956 and 1957

NOTE.—These indexes are calculated as at the first day of each month, on the base 1949=100.

Year	Montreal	Quebec	Toronto	Ottawa-Hull	Hamilton	Windsor	Winnipeg	Vancouver
Averages—								
1948.....	97.1	100.5	97.3	96.5	96.9	94.5	97.1	102.1
1949.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1950.....	101.3	98.7	104.1	103.1	100.8	102.2	100.1	99.0
1951.....	106.6	101.6	110.7	108.4	109.5	107.7	102.7	101.4
1952.....	110.9	105.2	113.3	108.9	109.2	107.0	104.0	100.1
1953.....	113.8	110.9	119.6	109.4	111.4	111.1	104.1	102.2
1954.....	110.8	110.7	120.1	109.7	104.3	93.9	103.3	102.5
1955.....	112.8	107.9	121.2	113.6	105.6	101.1	104.4	107.2
1956.....	119.8	110.8	127.7	119.2	113.3	105.0	106.6	116.7 ¹
1957.....	124.7	111.1	132.1	120.4	114.9	97.7	107.7	120.7
1956—								
Jan. 1.....	116.0	105.2	125.5	115.7	110.1	108.1	105.5	110.4
Feb. 1.....	114.2	103.7	123.2	112.7	109.1	105.6	103.0	108.3
Mar. 1.....	114.0	103.7	124.0	113.4	108.8	107.9	102.1	109.1
Apr. 1.....	115.3	104.0	125.1	114.5	110.0	109.2	102.3	111.5
May 1.....	117.7	107.9	125.9	116.0	112.6	109.9	103.6	114.4
June 1.....	119.5	108.6	127.3	119.5	114.7	108.7	105.4	117.2
July 1.....	121.2	114.8	129.2	122.1	116.3	107.9	108.3	119.0
Aug. 1.....	120.7	116.4	128.0	123.4	115.2	107.7	109.2	121.4
Sept. 1.....	122.7	116.1	129.3	123.3	114.7	87.1	109.5	123.5
Oct. 1.....	124.9	117.1	130.2	122.9	115.2	96.2	110.2	122.0
Nov. 1.....	125.1	115.9	132.0	123.5	116.6	105.9	110.1	121.8
Dec. 1.....	126.0	115.0	132.9	123.6	116.6	107.4	109.7	121.3

¹ Includes New Westminster from 1956.

**9.—Annual Average Index Numbers of Employment by Metropolitan Area 1948-57, and
Monthly Indexes 1956 and 1957—concluded**

Year	Montreal	Quebec	Toronto	Ottawa- Hull	Hamilton	Windsor	Winnipeg	Van- couver
1957—								
Jan. 1.....	121.5	108.5	131.9	120.5	115.6	107.2	108.2	119.0
Feb. 1.....	120.4	105.2	129.2	115.7	113.0	105.8	103.8	114.5
Mar. 1.....	120.8	105.6	129.3	115.5	113.7	103.1	103.0	115.4
Apr. 1.....	121.9	105.8	130.2	116.7	113.8	101.9	103.4	118.8
May 1.....	124.3	109.2	131.6	119.1	115.5	100.7	105.3	119.5
June 1.....	125.9	112.2	132.7	121.6	113.9	102.4	108.5	121.7
July 1.....	126.8	113.5	133.4	122.4	118.3	98.2	109.4	123.9
Aug. 1.....	126.1	115.1	132.8	123.0	117.4	97.0	110.2	126.0
Sept. 1.....	127.4	116.7	132.3	122.7	115.5	85.1	110.6	128.1
Oct. 1.....	127.8	115.8	133.4	122.2	115.4	87.2	111.0	124.4
Nov. 1.....	127.2	113.8	133.4	122.9	114.5	91.3	110.6	120.6
Dec. 1.....	126.0	112.1	134.9	122.1	112.6	92.3	108.8	119.1
Percentage distribution in 1957 ¹	15.1	1.5	14.9	1.8	3.0	1.5	3.1	4.6

¹ Proportion of employees reported in metropolitan areas to the total reported by all employers making returns in Canada (12-month average).

Employment, Payrolls and Salaries and Wages.—In the Atlantic Provinces, industrial employment was lower in 1957 than in 1956 but increases were recorded in all other provinces. Average weekly wages and salaries rose in every province. The decline in employment in New Brunswick outweighed the increase in average earnings, and the 1957 payrolls index for that province was lower than the index for 1956; in all other provinces aggregate industrial payrolls were higher.

The only metropolitan areas in which annual averages of employment indexes were lower in 1957 than in 1956 were Saint John, N.B., and Niagara Falls, Brantford and Windsor, Ont. The decline of 7 p.c. in Windsor was the largest recorded and resulted in a drop in payrolls for that city. The decrease in employment in Saint John followed a decline from 1955 to 1956, when employment in all other metropolitan areas increased. Increases in average weekly wages and salaries were general and, with the exception of Windsor, payrolls were up in all cities for which data are published.

Average weekly wages and salaries rose by 5.5 p.c. from 1956 to 1957, matching the advance between 1955 and 1956. The percentage increase was larger than those occurring from year to year between 1953 and 1955 but smaller than those recorded for the earlier part of the postwar period. As shown in Table 10, there was little variation from industry division to industry division in the extent of average earnings increases occurring from 1956 to 1957. The increases of 7.6 p.c. for mining and construction were the largest recorded and that of 4.8 p.c. for manufacturing was the smallest. Increases in wage rates were partly responsible for the rise in average weekly earnings but there were also other factors at work. In some industries in which employment declined, average earnings rose because many of the workers laid off were in the lower-paid categories.

Provincially, the percentage increases in the provinces with the largest work forces—Quebec, Ontario and British Columbia—approximated the national increase of 5.5 p.c. The increases for Newfoundland, Prince Edward Island, Nova Scotia and Saskatchewan were significantly larger than the national average and those for New Brunswick, Manitoba and Alberta were smaller.

10.—Annual Index Numbers of Employment, Payrolls and Earnings together with Average Weekly Wages and Salaries, by Industry, Province and Metropolitan Area, 1956 and 1957

Industry, Province and Metropolitan Area	Index Numbers (1949=100)						Average Weekly Wages and Salaries	
	Employment		Aggregate Weekly Payrolls		Average Weekly Earnings			
	1956	1957	1956	1957	1956	1957	1956	1957
Industry							\$	\$
Forestry (chiefly logging).....	113.3	103.2	185.3	178.3	160.1	170.5	65.04	69.24
Mining.....	122.0	126.9	184.3	206.4	150.7	162.2	77.59	83.51
Manufacturing.....	115.4	116.3	175.5	185.4	151.2	158.5	66.47	69.68
Durable goods ¹	125.7	126.1	190.3	200.2	151.0	158.1	71.16	74.53
Non-durable goods ¹	106.4	107.8	160.4	170.8	149.8	157.5	61.69	64.84
Construction.....	130.8	136.2	216.8	242.1	165.4	177.9	68.26	73.44
Transportation, storage and communication.....	117.7	120.6	164.4	178.4	138.4	146.7	66.99	70.98
Public utility operation.....	125.7	133.1	195.3	220.0	153.6	163.4	73.93	78.66
Trade.....	125.5	131.6	184.0	202.2	147.4	154.9	54.49	57.28
Finance, insurance and real estate.....	136.4	144.4	193.7	215.0	142.3	149.4	60.07	63.08
Service ³	124.4	131.6	182.3	204.7	152.4	162.4	42.74	45.54
Totals.....	120.1	122.9	180.5	194.5	149.4	157.6	64.18	67.70
Province								
Newfoundland.....	136.9	130.8	209.4	215.5	152.3	164.6	57.14	61.75
Prince Edward Island.....	117.7	115.4	165.0	173.1	140.9	150.3	47.27	50.45
Nova Scotia.....	101.7	100.5	143.2	150.6	139.9	149.1	52.67	56.13
New Brunswick.....	109.9	104.8	159.5	158.9	143.9	150.6	54.81	57.35
Quebec.....	119.6	121.9	179.9	192.6	149.6	157.7	61.63	64.95
Ontario.....	120.7	124.6	181.9	197.9	150.2	158.5	66.61	70.31
Manitoba.....	108.3	111.1	154.7	166.3	142.2	149.0	60.69	63.60
Saskatchewan.....	120.4	125.2	178.8	196.9	147.6	156.8	61.26	65.06
Alberta.....	147.3	152.4	221.4	237.9	150.1	156.2	66.63	69.36
British Columbia.....	120.9	124.5	185.6	200.9	153.1	161.2	69.91	73.59
Metropolitan Area								
St. John's.....	123.0	123.5	180.0	191.1	146.1	154.6	47.09	49.82
Sydney.....	90.8	93.3	122.9	138.3	135.7	148.9	63.72	69.89
Halifax.....	118.1	118.3	171.0	180.9	145.3	153.8	51.51	54.49
Saint John.....	101.2	99.9	142.2	145.2	140.7	145.7	50.43	52.19
Quebec.....	110.8	111.1	167.0	175.5	149.8	157.1	53.42	56.03
Sherbrooke.....	107.5	107.9	159.9	167.2	149.2	155.3	53.60	55.77
Trois Rivières.....	117.9	118.5	172.4	181.6	143.7	150.9	59.92	62.91
Drummondville.....	75.4	76.0	106.7	112.0	141.4	147.2	54.95	57.18
Montreal.....	119.8	124.7	180.0	196.3	149.8	157.3	62.63	65.80
Ottawa-Hull.....	119.2	120.4	177.6	186.4	149.3	155.5	58.56	61.00
Peterborough.....	103.6	107.4	159.2	167.6	149.6	164.1	67.00	73.51
Oshawa.....	156.4	170.2	234.5	257.6	147.2	149.9	74.96	76.31
Niagara Falls.....	126.8	126.3	197.9	208.2	151.8	160.1	70.99	74.85
St. Catharines.....	122.9	125.2	186.8	197.4	150.8	156.9	74.51	77.53
Toronto.....	127.7	132.1	194.5	210.5	153.0	160.3	67.40	70.60
Hamilton.....	113.3	114.9	170.2	183.6	149.3	159.1	69.67	74.21
Brantford.....	88.6	87.0	125.1	126.0	141.4	145.2	61.78	63.44
Galt.....	108.7	115.1	161.8	177.7	148.6	153.7	58.40	60.41
Kitchener.....	112.3	116.0	169.1	181.3	150.7	156.5	61.25	63.61
Sudbury.....	137.2	143.0	201.7	225.0	146.6	156.3	78.46	83.63
London.....	116.9	120.3	176.6	188.6	149.9	155.9	61.11	63.55
Sarnia.....	134.4	138.6	221.1	244.2	163.8	175.1	79.61	85.11
Windsor.....	105.0	97.7	147.5	142.5	139.5	145.0	70.79	73.60
Sault Ste. Marie.....	128.5	137.3	202.1	229.7	156.6	166.5	79.83	84.86
Fort William-Port Arthur.....	112.3	118.8	165.5	186.3	154.0	164.3	65.95	70.09
Winnipeg.....	106.6	107.7	155.0	164.3	146.6	153.7	57.94	60.41
Regina.....	118.0	122.1	180.7	200.3	152.5	163.4	58.34	62.50
Saskatoon.....	119.8	126.9	181.4	202.4	151.2	159.4	56.59	59.65
Edmonton.....	173.6	180.1	268.5	288.0	154.8	160.5	62.83	65.14
Calgary.....	152.9	159.1	226.3	247.1	148.2	155.5	62.18	65.26
Vancouver ²	116.7	120.7	179.4	196.6	153.7	162.7	67.13	71.18
Victoria.....	119.9	121.7	177.1	190.0	147.0	155.7	61.47	65.10

¹ The durable goods group includes wood products, iron and steel products, transportation equipment, non-ferrous metal products, electrical apparatus and supplies, and non-metallic mineral products; the non-durable goods group includes all other manufacturing industries.

² Mainly hotels, restaurants, laundries, dry-cleaning establishments and business and recreational services.

³ Includes New Westminster.

11.—Annual Average Weekly Wages and Salaries by Industrial Group 1948-57, and Monthly Averages 1956 and 1957

Year and Month	Forestry (chiefly logging)	Mining	Manu- factur- ing	Con- struc- tion	Trans- porta- tion, Storage and Comm- unica- tion	Public Utility Oper- ation	Trade	Finance, Insur- ance and Real Estate	Serv- ice ¹	Indus- trial Com- posite
	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
Averages—										
1948.....	39.11	49.77	40.67	37.99	45.51	45.16	34.38	40.08	25.87	40.06
1949.....	40.62	51.49	43.97	41.28	49.39	48.14	36.97	42.22	28.05	42.96
1950.....	42.01	53.95	46.21	43.27	49.15	51.14	38.81	43.90	29.50	44.84
1951.....	43.40	59.82	51.25	48.36	53.76	55.93	42.71	46.26	31.61	49.61
1952.....	55.31	65.35	56.11	55.37	56.48	61.66	45.89	49.13	34.05	54.13
1953.....	58.11	69.70	59.01	60.57	61.09	65.16	48.26	51.64	36.87	57.30
1954.....	59.85	70.43	60.94	61.04	62.62	67.76	50.60	53.78	38.77	58.88
1955.....	60.31	73.25	63.34	61.94	64.39	70.56	52.25	56.48	40.54	60.87
1956.....	65.04	77.59	66.47	68.26	66.99	73.93	54.49	60.07	42.74	64.18
1957.....	69.24	83.51	69.68	73.44	70.98	78.66	57.28	63.08	45.54	67.70
1956—										
Jan. 1.....	63.57	73.66	62.47	58.71	65.17	71.24	52.72	58.08	41.64	60.54
Feb. 1.....	56.96	76.82	65.05	66.29	64.57	72.61	53.61	58.51	42.02	62.43
Mar. 1.....	63.00	77.43	65.57	67.32	65.20	73.59	54.06	58.96	42.48	63.20
Apr. 1.....	63.35	76.16	66.02	66.78	65.41	73.63	54.15	60.65	42.60	63.43
May 1.....	63.88	76.54	66.70	67.58	65.34	72.91	54.53	60.96	42.91	63.93
June 1.....	62.37	77.07	66.46	67.76	65.74	72.84	54.79	60.56	42.73	63.93
July 1.....	67.05	77.24	66.89	67.44	67.82	72.98	55.22	60.39	42.28	64.56
Aug. 1.....	67.44	77.49	66.44	70.25	67.99	73.24	55.36	60.53	42.32	64.77
Sept. 1.....	66.06	78.01	66.71	71.25	68.06	74.76	55.24	60.58	42.37	65.01
Oct. 1.....	67.79	80.30	67.97	72.87	69.50	76.37	55.07	60.42	43.33	66.07
Nov. 1.....	69.80	79.53	68.53	72.12	69.72	76.36	54.83	60.42	43.82	66.24
Dec. 1.....	69.22	80.87	68.78	70.78	69.38	76.65	54.29	60.79	44.39	66.11
1957—										
Jan. 1.....	67.93	78.67	65.44	62.54	68.76	76.72	54.55	60.70	43.96	63.58
Feb. 1.....	63.76	82.51	69.17	72.94	69.08	77.67	56.59	60.94	44.36	66.66
Mar. 1.....	70.36	83.23	69.29	74.31	70.26	78.33	56.85	62.27	45.24	67.36
Apr. 1.....	70.45	82.67	69.87	75.34	69.37	78.27	56.97	62.50	45.36	67.56
May 1.....	71.89	82.61	69.78	71.96	69.72	78.26	57.23	63.05	45.71	67.37
June 1.....	66.28	82.97	69.92	73.82	70.29	78.05	57.81	64.01	45.87	67.82
July 1.....	67.72	84.46	70.19	73.83	71.93	78.22	58.20	64.21	45.55	68.33
Aug. 1.....	69.31	83.39	69.95	75.14	72.25	77.96	58.16	63.93	45.15	68.41
Sept. 1.....	71.43	84.01	69.77	75.59	72.27	78.74	58.11	63.78	45.36	68.48
Oct. 1.....	70.06	85.39	70.29	76.87	72.32	79.61	57.91	63.69	46.15	68.84
Nov. 1.....	70.23	85.61	70.86	74.12	72.40	80.33	57.71	63.98	46.55	68.79
Dec. 1.....	71.51	86.65	71.69	74.81	73.15	81.75	57.22	63.94	47.27	69.24

¹ Mainly hotels, restaurants, laundries, dry-cleaning establishments and business and recreational services.

Subsection 3.—Hours and Hourly Earnings, 1957

The questionnaire used in the monthly survey of employment and payrolls since the end of 1944 has also obtained statistics of hours worked and paid for during periods of absence, with corresponding totals of wages paid to the wage-earners for whom records of hours are maintained. These are mainly hourly rated or production workers, since employers frequently do not keep the necessary information for ancillary workers. In a number of industries, no records of hours worked are available. The wages reported include premium overtime, shift differentials, production, incentive and cost-of-living bonuses where paid, as well as straight-time wages including those paid to wage-earners employed for only part of the pay periods covered by the surveys.

The trend of average hourly earnings and weekly wages has been upward throughout the postwar years, during which period the work week has been shortened in most industries. In construction, however, hours have risen since 1944 when labour and materials were in short supply. The changes from 1945 to 1957 are summarized in Table 12.

12.—Changes in Average Hours and Earnings in Specified Industries, 1945 to 1957

Industry	Average Hours Worked			Average Hourly Earnings			Average Weekly Wages		
	1945	1957	Change	1945	1957	Change	1945	1957	Change
	No.	No.	p.c.	cts.	cts.	p.c.	\$	\$	p.c.
Mining.....	43.8	42.4	— 3.2	85.0	186.5	+119.4	37.23	79.08	+112.4
Manufacturing.....	44.3	40.4	— 8.8	69.4	160.0	+130.5	30.74	64.64	+110.3
Durable goods.....	44.7	40.6	— 9.2	76.7	172.6	+125.0	34.28	70.08	+104.4
Non-durable goods.....	43.7	40.3	— 7.8	60.7	146.5	+141.4	26.53	59.04	+122.5
Construction—									
Buildings and structures.....	40.4	41.4	+ 2.5	80.9	189.0	+133.6	32.68	78.25	+139.4
Highways, bridges and streets..	36.7	40.9	+ 11.4	63.2	143.8	+127.5	23.19	58.81	+153.6
Service.....	43.8	39.8	— 9.1	43.0	93.5	+117.4	18.83	37.21	+ 97.6

The percentage increases in manufacturing in the period have been notable, particularly in the non-durable goods component. Above-average expansion in recent years in employment in the relatively high-pay groups of the latter division, such as oil refining, pulp and paper, and printing and publishing, with a levelling in several of the relatively low-pay industries, was an important factor in narrowing the percentage difference between earnings in plants producing durable and non-durable manufactured goods. Substantial advances in employment in the 13 years were also reported by several of the heavy industries, notably non-ferrous metal products and electrical apparatus and supplies, but the levels in these classes were closer to the divisional average so that the rise in their working forces had less effect on the gain in the non-durable group as a whole.

In 1957 as compared with 1956, manufacturing showed increases of 5.6 p.c. and 3.8 p.c. in average hourly earnings and weekly wages, respectively, resulting largely from upward adjustments in wage rates. The release of lower-paid wage-earners in the later months of 1957 also contributed. The gains in the heavy and the light manufacturing classes were slightly above those in manufacturing as a whole, caused by a relatively larger decline in the total of hours reported in the more highly paid durable goods component. In that division, the total hours reported fell by over 3 p.c. in 1957 from a year earlier, as compared with a loss of under 2 p.c. in non-durables as a group. The general decline in manufacturing was 2.3 p.c. Most industries in the division shared in the upward movement of average earnings and there were also widespread though generally moderate reductions in average hours as compared with 1956, caused in part by less overtime work and in part by changes in the standard work week in some industries.

Earnings per hour in mining rose by 8.8 p.c. to a new maximum of 186.5 cents in 1957. There were increases over 1956 in all main branches of the industry but advances were most pronounced in base metal and oil and natural gas extraction. Expanded operations in uranium mines, in which average hours and hourly earnings were relatively high, contributed materially to the generally higher average; another factor of importance in the mining industry was the reduced employment in coal and non-metallic mineral mines, where average earnings were below the Canada level in mining. The average work week in mining was half an hour shorter in 1957, while average weekly wages rose by 7.5 p.c.

In construction, earnings and hours of work were higher in 1957 than in 1956; there was a gain of 7.1 p.c. in the hourly average, of 7.7 p.c. in the weekly wage and of 0.2 hours in the average work week. Moderate revisions in wage rates raised the averages of earnings in electric and motor transportation, and also in hotels and restaurants, and laundries and dry-cleaning plants, the only service industries for which man-hours and hourly earnings data are published.

13.—Average Hours and Earnings in Specified Industries and Areas, 1956 and 1957

Industry, Province and Metropolitan Area	Average Hours Worked		Average Hourly Earnings		Average Weekly Wages	
	1956	1957	1956	1957	1956	1957
	No.	No.	cts.	cts.	\$	\$
Industry						
Mining	42.9	42.4	171.4	186.5	73.53	79.08
Metal mining.....	43.2	42.8	178.0	194.0	76.90	83.03
Coal mining.....	40.7	39.7	149.2	160.6	60.72	63.76
Manufacturing	41.1	40.4	151.5	160.0	62.27	64.64
Durable goods ¹	41.2	40.6	163.2	172.6	67.24	70.08
Non-durable goods ¹	40.9	40.3	138.6	146.5	56.69	59.04
Construction	41.1	41.3	163.9	175.6	67.36	72.52
Buildings and structures.....	41.0	41.4	176.5	189.0	72.37	78.25
Highways, bridges and streets.....	41.4	40.9	133.9	143.8	55.43	58.81
Service	40.3	39.8	89.0	93.5	35.87	37.21
Hotels and restaurants.....	40.4	40.1	88.8	92.9	35.88	37.25
Laundries and dry-cleaning plants.....	40.8	40.0	85.0	89.8	34.68	35.92
Province						
Newfoundland.....	41.6	42.3	141.5	156.3	58.86	66.11
Nova Scotia.....	40.9	40.9	133.2	143.1	54.48	58.53
New Brunswick.....	41.9	41.3	135.2	141.2	56.65	58.32
Quebec.....	42.3	41.4	136.2	143.8	57.61	59.53
Ontario.....	40.7	40.2	159.6	168.6	64.96	67.78
Manitoba.....	40.5	40.1	143.1	149.5	57.96	59.95
Saskatchewan.....	40.0	39.9	156.4	166.9	62.56	66.59
Alberta.....	40.1	40.0	156.1	167.2	62.60	66.88
British Columbia.....	38.2	37.7	180.6	190.4	68.99	71.78
Metropolitan Area						
Montreal.....	41.4	40.6	142.0	149.7	58.79	60.78
Toronto.....	40.6	40.1	157.6	165.1	63.99	66.21
Hamilton.....	40.6	40.0	174.2	188.7	70.73	75.48
Windsor.....	38.1	37.7	180.0	188.5	68.53	71.06
Winnipeg.....	40.3	39.9	140.3	147.4	56.54	58.81
Vancouver ²	38.1	37.5	176.5	187.1	67.25	70.16

¹ The durable goods group includes wood products, iron and steel products, transportation equipment, non-ferrous metal products, electrical apparatus and supplies, and non-metallic mineral products; the non-durable goods group includes all other manufacturing industries.

² Includes New Westminster.

Subsection 4.—Hours and Earnings in Manufacturing Industries*

An annual survey of hours and earnings in manufacturing relating to the last week of October supplements the monthly data included in the preceding Subsections. Separate figures of hours and earnings of men and women wage-earners and salaried employees

* More detailed information is given in DBS annual reports *Earnings and Hours in Manufacturing*.

are obtained each year. In addition, percentage distribution of wage-earners in a given range of hours were obtained annually for the years 1946 to 1949 and every third year thereafter (1955 data given in Table 19); in 1950, 1953 and 1956, percentage distributions of wage-earners and salaried employees by amounts earned in the survey week were obtained (1956 data given in Table 18); and in 1951, 1954 and 1957, hours and earnings of office workers were segregated from those for managerial, supervisory, professional and other senior salaried employees (1957 data given in Table 16).

The annual survey is limited to establishments usually employing 15 or more persons and covers approximately 90 p.c. of all employees reported to the Annual Census of Manufactures. Establishments are asked to report for all casual, part-time and full-time employees on staff in the survey week, excluding proprietors, firm members, pensioners, homeworkers, employees absent without pay throughout the week and staffs in manufacturers' separately organized sales offices. Gross earnings, including regularly paid bonuses, overtime pay and amounts paid for absences, are reported for the week. The reported hours comprise part-time, full-time and overtime hours worked and hours of paid absence in the survey week. The general averages are usually very similar to those derived from the corresponding monthly survey.

The annual survey reflects a continued upward movement in wages and salaries throughout the postwar period. Table 14 provides year-to-year comparisons of average earnings from 1949. In the eight years, men's weekly wages rose by 52.6 p.c. and their salaries by 60.0 p.c. In the same period, women's weekly wages advanced by 45.3 p.c. and their salaries by 58.9 p.c. Since the general trend in hours worked has been downward because of reductions in the standard work week and other factors, the increases in the average hourly earnings of wage-earners have been proportionately greater than in their weekly wages, the eight-year advances amounting to 63.6 p.c. for men and 54.4 p.c. for women.

Variations in the general and group averages and the year-to-year comparisons are, of course, related to varying economic and other conditions affecting the component industries in the survey periods and to the industrial and, in some cases, area distributions of the reported employees. Tables 15 and 16 show the 1957 averages of hours and earnings for wage-earners and salaried employees, respectively, for the provinces, the six largest metropolitan areas, the major industry groups and several important industries. It will be noted that women average consistently lower earnings than men in the same area or industry unit. This is a result not only of pay differentials and occupational differences, but also of such factors as a frequently shorter work week for women, a greater incidence of part-time work and absenteeism among them, their higher proportions of younger and less experienced workers, and their industrial distributions.

Salaried employees comprise increasing proportions of manufacturing staffs as a whole. Table 17 shows that the proportion of salaried employees has risen from 16.3 p.c. in 1946 to 23.8 p.c. in 1957. This trend is associated with developments in planning, administration and record-keeping which have increased requirements for professional and clerical personnel, and with changes in manufacturing processes which have frequently reduced manpower requirements per unit produced. Changes in industrial distributions of employment also contribute to variations in the ratio of salaried personnel to wage-earners, which in any one period is further influenced by seasonal, market and other conditions affecting levels of production. These usually cause sharper fluctuations in numbers of wage-earners than of salaried employees.

In 1957, the general office and clerical personnel made up 61.2 p.c. of all salaried employees, 48.1 p.c. of the men and 94.9 p.c. of the women. The office workers averaged \$67.98 for both sexes, \$81.08 for men and \$50.80 for women in the 1957 survey week, as compared with salaried employees' general averages of \$89.92 for both sexes, \$104.63 for men, and \$51.84 for women. The wide differential between earnings of salaried men as a whole and of male office workers is a result of the exclusion from the latter category of managerial, supervisory, professional and other senior personnel who are usually paid well above the average.

14.—Average Earnings of Male and Female Workers and Increases over the Preceding Year, Weeks Ended Oct. 31, 1949-57

(As reported by manufacturers usually employing 15 or more persons.)

Year	Men			Women			Both Sexes		
	Average Earnings	Increase over Preceding Year		Average Earnings	Increase over Preceding Year		Average Earnings	Increase over Preceding Year	
AVERAGE HOURLY EARNINGS OF WAGE-EARNERS									
	\$	\$	p.c.	\$	\$	p.c.	\$	\$	p.c.
1949.....	1.07	0.05	4.9	0.68	0.03	4.6	0.98	0.03	3.2
1950.....	1.14	0.07	6.5	0.72	0.04	5.9	1.03	0.08	8.2
1951.....	1.31	0.17	14.9	0.82	0.10	13.9	1.22	0.16	15.1
1952.....	1.40	0.09	6.9	0.86	0.04	4.9	1.30	0.08	6.6
1953.....	1.47	0.07	5.0	0.91	0.05	5.8	1.36	0.06	4.6
1954.....	1.51	0.04	2.7	0.93	0.02	2.2	1.40	0.04	2.9
1955.....	1.57	0.06	4.0	0.95	0.02	2.2	1.44	0.04	2.9
1956.....	1.66	0.09	5.7	1.00	0.05	5.3	1.53	0.09	6.2
1957.....	1.75	0.09	5.4	1.05	0.05	5.0	1.61	0.08	5.2
AVERAGE WEEKLY WAGES									
	\$	\$	p.c.	\$	\$	p.c.	\$	\$	p.c.
1949.....	47.33	1.60	3.5	27.18	1.27	4.9	42.61	1.36	3.3
1950.....	50.93	3.60	7.6	29.00	1.82	6.7	45.04	3.33	7.8
1951.....	56.46	5.53	10.9	31.27	2.27	7.8	51.32	5.38	11.7
1952.....	60.85	4.39	7.8	34.17	2.90	9.3	55.17	3.85	7.5
1953.....	62.71	1.86	3.1	35.07	0.90	2.6	56.75	1.58	2.9
1954.....	63.98	1.27	2.0	35.90	0.83	2.4	57.99	1.24	2.2
1955.....	66.86	2.88	4.5	37.52	1.62	4.5	60.53	2.54	4.4
1956.....	70.67	3.81	5.7	39.29	1.77	4.7	63.97	3.44	5.7
1957.....	72.21	1.54	2.2	39.49	0.20	0.5	65.31	1.34	2.1
AVERAGE WEEKLY SALARIES									
	\$	\$	p.c.	\$	\$	p.c.	\$	\$	p.c.
1949.....	65.37	1.90	3.0	32.62	1.36	4.4	54.85	1.94	3.7
1950.....	69.35	3.98	6.1	34.38	1.76	5.4	58.74	3.89	7.1
1951.....	77.55	8.20	11.8	38.42	4.04	11.8	65.98	7.24	12.3
1952.....	82.60	5.05	6.5	41.26	2.84	7.4	70.75	4.77	7.2
1953.....	86.43	3.83	4.6	43.13	1.87	4.5	73.87	3.12	4.4
1954.....	90.99	4.56	5.3	45.00	1.87	4.3	77.81	3.94	5.3
1955.....	93.50	2.51	2.8	47.02	2.02	4.5	80.67	2.76	3.5
1956.....	99.05	5.55	5.9	49.31	2.29	4.9	85.23	4.66	5.8
1957.....	104.63	5.58	5.6	51.84	2.53	5.1	89.92	4.69	5.5

15.—Average Hours and Earnings of Male and Female Wage-Earners for the Last Week of October 1957

Province, Metropolitan Area and Industry	Average Hours Worked			Average Hourly Earnings			Average Weekly Earnings		
	Men	Women	Both Sexes	Men	Women	Both Sexes	Men	Women	Both Sexes
Province	No.	No.	No.	\$	\$	\$	\$	\$	\$
Newfoundland.....	39.2	32.4	38.5	1.67	0.59	1.57	65.68	19.04	60.42
Nova Scotia.....	41.0	38.7	40.7	1.50	0.65	1.39	61.70	25.24	56.50
New Brunswick.....	41.5	36.1	40.7	1.49	0.78	1.40	61.97	28.11	57.12
Quebec.....	42.7	37.9	41.4	1.60	0.99	1.45	68.24	37.38	59.93
Ontario.....	40.9	37.9	40.3	1.84	1.11	1.70	75.38	42.25	68.71
Manitoba.....	40.8	37.2	40.0	1.66	0.96	1.52	67.60	35.70	60.72
Saskatchewan.....	40.5	35.2	40.0	1.69	1.13	1.62	68.54	40.79	64.78
Alberta.....	40.3	36.0	39.7	1.76	1.19	1.70	71.08	42.98	67.45
British Columbia.....	38.5	34.4	38.1	2.01	1.30	1.95	77.42	44.72	74.26
Totals.....	41.2	37.7	40.5	1.75	1.05	1.61	72.21	39.49	65.31
Metropolitan Area									
Montreal.....	42.3	37.7	40.9	1.67	1.05	1.50	70.70	39.73	61.24
Toronto.....	40.9	38.2	40.2	1.83	1.11	1.65	74.95	42.51	66.36
Hamilton.....	40.3	37.1	39.8	2.03	1.16	1.90	82.04	43.20	75.41
Windsor.....	38.9	38.4	38.9	2.00	1.44	1.94	77.67	55.27	75.45
Winnipeg.....	40.9	37.2	40.1	1.64	0.97	1.50	67.04	36.15	60.02
Vancouver.....	38.1	34.7	37.6	2.01	1.31	1.92	76.66	45.56	72.14
Industry									
Foods and beverages.....	42.2	37.0	40.8	1.52	1.00	1.39	64.16	36.98	56.69
Meat products.....	41.3	37.8	40.6	1.78	1.30	1.69	73.34	49.03	68.42
Canned and preserved fruits and vegetables.....	42.2	34.4	38.2	1.30	0.84	1.09	54.67	29.02	41.68
Bread and other bakery products.....	44.4	39.9	43.6	1.46	0.90	1.36	64.76	35.76	59.26
Tobacco and tobacco products.....	40.4	37.6	38.6	1.76	1.46	1.57	70.95	54.84	60.75
Rubber products.....	41.4	38.9	40.8	1.79	1.20	1.67	74.09	46.85	68.43
Leather products.....	39.6	36.6	38.2	1.31	0.89	1.13	52.00	32.54	43.18
Textile products (except clothing).....	43.0	39.2	41.7	1.33	1.04	1.24	57.36	40.72	51.51
Cotton yarn and broad woven goods.....	40.9	38.1	39.9	1.28	1.11	1.22	52.26	42.20	48.74
Clothing (textile and fur).....	39.8	37.0	37.8	1.44	0.94	1.08	57.35	34.65	40.62
Men's clothing.....	37.8	36.4	36.8	1.47	0.94	1.09	55.53	34.28	40.25
Women's clothing.....	37.0	35.6	35.8	1.70	1.01	1.14	62.88	35.98	40.76
Knit goods.....	43.9	39.6	40.8	1.29	0.88	1.01	56.74	34.83	41.34
Wood products.....	41.9	39.2	41.8	1.44	1.10	1.42	60.38	43.29	59.34
Saw and planing mills.....	41.1	39.5	41.1	1.51	1.25	1.50	62.27	49.38	61.78
Furniture.....	43.6	39.1	43.3	1.34	1.08	1.32	58.52	42.50	57.16
Paper products.....	41.2	38.7	41.0	1.98	1.08	1.89	81.51	41.62	77.43
Pulp and paper mills.....	40.9	36.4	40.8	2.06	1.26	2.04	84.18	45.86	83.51
Other paper products.....	42.6	39.0	41.4	1.66	1.05	1.47	70.82	41.02	60.90
Printing, publishing and allied industries.....	40.2	37.0	39.5	2.10	1.07	1.89	84.27	39.50	74.84
Iron and steel products.....	40.7	38.1	40.6	1.88	1.32	1.86	76.75	50.32	75.55
Iron castings.....	40.3	37.6	40.3	1.81	1.31	1.81	73.17	49.31	72.77
Machinery manufacturing.....	41.8	38.7	41.7	1.76	1.33	1.73	73.63	51.40	72.26
Primary iron and steel.....	39.9	34.4	39.9	2.20	1.82	2.20	88.00	62.89	87.83
Transportation equipment.....	40.2	36.9	40.1	1.90	1.46	1.88	76.31	54.09	75.59
Aircraft and parts.....	40.4	37.3	40.3	1.90	1.43	1.89	76.83	53.43	76.17
Motor vehicles.....	40.5	38.4	40.4	2.09	1.94	2.09	84.60	74.52	84.43
Motor vehicle parts and accessories.....	39.4	36.0	38.9	1.89	1.47	1.84	74.52	52.92	71.57
Railroad and rolling-stock equipment.....	39.3	-	39.3	1.79	-	1.79	70.49	-	70.44
Shipbuilding and repairing.....	40.9	39.8	40.9	1.83	1.08	1.82	74.87	43.16	74.46
Non-ferrous metal products.....	41.1	38.8	41.0	1.94	1.02	1.88	79.79	39.68	77.14
Smelting and refining.....	40.6	-	40.6	2.09	-	2.09	84.81	-	84.71
Electrical apparatus and supplies.....	41.2	38.2	40.3	1.81	1.29	1.66	74.57	49.52	67.11
Non-metallic mineral products.....	43.3	39.0	43.0	1.66	1.19	1.63	72.16	46.18	70.36
Products of petroleum and coal.....	41.5	-	41.4	2.24	-	2.23	92.86	-	92.48
Chemical products.....	41.3	38.8	40.9	1.86	1.11	1.75	76.96	42.92	71.61
Miscellaneous manufacturing industries.....	42.3	39.4	41.2	1.51	0.98	1.31	63.81	38.54	53.77
Averages, Durable Goods.....	41.0	38.3	40.8	1.79	1.26	1.76	73.65	48.31	71.67
Averages, Non-durable Goods.....	41.5	37.6	40.2	1.69	1.00	1.48	70.30	37.54	59.25
Averages, Manufacturing Industries.....	41.2	37.7	40.5	1.75	1.05	1.61	72.21	39.49	65.31

16.—Average Hours and Earnings of Male and Female Salaried Employees for the Last Week of October 1957

Province, Metropolitan Area and Industry	Salaried Employees						Office Workers		
	Average Hours Worked			Average Weekly Earnings			Average Weekly Earnings		
	Men	Women	Both Sexes	Men	Women	Both Sexes	Men	Women	Both Sexes
	No.	No.	No.	\$	\$	\$	\$	\$	\$
Province									
Newfoundland.....	41.2	39.1	40.8	95.80	46.16	85.90	78.84	45.64	69.02
Nova Scotia.....	40.5	37.9	39.8	89.06	41.16	76.14	70.91	40.71	57.79
New Brunswick.....	40.4	38.3	39.8	87.44	41.58	74.46	69.94	40.98	58.28
Quebec.....	38.8	37.5	38.4	102.24	51.59	88.34	78.83	50.48	67.12
Ontario.....	38.9	37.6	38.5	107.75	52.91	92.02	83.25	51.88	69.19
Manitoba.....	39.6	38.2	39.2	88.89	44.45	76.85	71.23	43.90	59.66
Saskatchewan.....	39.7	38.7	39.4	88.61	47.50	75.74	68.14	47.15	57.67
Alberta.....	39.8	38.4	39.4	98.54	50.50	86.65	75.62	49.83	64.97
British Columbia.....	38.8	38.0	38.6	107.62	51.79	93.93	86.96	50.76	72.11
Totals	39.0	37.6	38.6	104.63	51.84	89.92	81.08	50.80	67.98
Metropolitan Area									
Montreal.....	38.5	37.4	38.2	105.06	54.22	90.40	81.49	52.71	69.39
Toronto.....	38.4	37.2	38.0	107.66	54.45	81.24	82.61	53.04	69.01
Hamilton.....	39.1	37.9	38.8	114.67	52.28	96.67	89.89	51.65	73.32
Windsor.....	39.5	38.3	39.2	115.04	63.83	102.57	96.44	63.43	84.07
Winnipeg.....	39.5	38.1	39.1	89.27	44.52	76.91	71.18	43.97	59.36
Vancouver ¹	38.6	37.9	38.4	105.19	51.48	90.07	86.07	50.30	70.52
Industry									
Foods and beverages.....	39.4	37.8	39.0	93.85	49.48	81.45	74.21	48.99	62.21
Meat products.....	39.3	38.3	39.1	94.41	53.45	85.68	76.74	52.56	67.76
Canned and preserved fruits and vegetables.....	40.5	38.4	39.8	91.29	48.88	77.83	69.11	48.25	58.32
Bread and other bakery products.....	40.2	38.2	40.8	83.41	45.26	70.86	67.96	45.10	54.74
Tobacco and tobacco products.....	37.7	37.2	37.6	112.78	63.24	94.84	81.83	59.59	69.67
Rubber products.....	39.6	38.5	39.3	95.90	49.30	83.04	74.72	49.27	63.80
Leather products.....	40.1	37.1	39.1	88.85	44.03	73.62	66.73	42.79	54.92
Textile products (except clothing).....	39.2	37.5	38.6	98.82	47.73	82.62	74.18	46.75	60.83
Cotton yarn and broad woven goods.....	38.7	37.2	38.3	92.55	45.41	78.16	74.14	45.23	63.03
Clothing (textile and fur).....	40.1	37.6	39.0	94.45	48.00	74.32	68.15	46.17	54.76
Men's clothing.....	39.8	37.8	39.0	92.19	43.66	73.06	68.24	43.37	55.15
Women's clothing.....	40.0	38.3	39.2	94.11	54.10	75.13	67.72	51.37	57.44
Knit goods.....	40.7	38.1	39.6	93.40	44.29	72.41	68.06	42.38	50.40
Wood products.....	40.9	37.7	40.1	94.69	47.13	83.01	74.02	46.29	62.83
Saw and planing mills.....	41.7	38.8	41.1	95.05	47.67	85.66	75.95	47.16	66.36
Furniture.....	39.9	37.1	39.0	96.55	46.68	80.39	70.48	45.51	57.48
Paper products.....	37.7	36.7	37.4	124.63	56.60	107.34	89.60	55.69	75.35
Pulp and paper mills.....	38.0	36.8	37.7	134.26	60.66	118.17	93.60	59.51	81.40
Other paper products.....	37.1	36.6	36.9	105.60	51.72	88.61	79.24	51.23	66.04
Printing, publishing and allied industries.....	37.8	37.3	37.6	95.81	49.20	77.86	68.67	46.89	56.08
Iron and steel products.....	38.9	37.7	38.6	104.50	51.37	91.31	80.50	50.87	69.26
Iron castings.....	39.2	37.2	38.7	101.53	48.55	88.50	79.97	48.14	68.74
Machinery manufacturing.....	38.7	37.6	38.4	97.45	49.29	84.74	78.63	48.96	67.35
Primary iron and steel.....	39.2	38.4	39.0	124.16	57.31	110.12	84.75	56.65	73.13
Transportation equipment.....	39.9	38.5	39.6	107.45	55.81	96.11	91.06	55.37	79.84
Aircraft and parts.....	39.9	38.3	39.5	107.57	52.97	94.91	94.01	52.34	81.60
Motor vehicles.....	40.6	38.4	40.3	116.14	66.78	105.66	96.07	66.60	86.77
Motor vehicle parts and accessories.....	39.4	38.6	39.2	106.74	55.56	94.10	84.28	54.94	72.36
Railroad and rolling-stock equipment.....	39.9	38.5	39.8	98.67	52.77	92.75	77.70	52.49	71.86
Shipbuilding and repairing.....	38.6	36.7	38.2	94.72	45.58	83.61	79.49	45.34	67.89
Non-ferrous metal products.....	38.2	37.0	37.9	113.43	53.40	99.83	85.51	52.74	72.19
Smelting and refining.....	38.6	37.6	38.4	116.77	55.94	109.53	89.60	55.00	79.84
Electrical apparatus and supplies.....	39.0	38.0	38.7	103.91	52.92	90.21	85.14	52.18	72.59
Non-metallic mineral products.....	39.8	37.5	39.3	102.27	51.74	90.08	77.65	50.94	67.02
Products of petroleum and coal.....	37.0	36.1	36.8	134.46	62.30	117.21	86.64	59.46	74.51
Chemical products.....	37.9	37.6	37.8	109.75	55.68	93.84	77.34	53.52	64.56
Miscellaneous manufacturing industries.....	38.8	37.1	38.2	100.92	49.89	83.07	75.87	49.18	61.48
Averages, Durable Goods	39.3	37.9	39.0	105.14	52.53	92.38	84.48	51.95	72.57
Averages, Non-durable Goods	38.6	37.4	38.2	104.07	51.32	87.46	76.19	49.86	62.85
Averages, Manufacturing Industries	39.0	37.6	38.6	104.63	51.84	89.92	81.08	50.80	67.98

¹ Includes New Westminster.

17.—Proportions of Reported Employees classified as Salaried Staff, 1946-57

Year	Durable Goods			Non-durable Goods			All Manufacturing		
	Men	Women	Both Sexes	Men	Women	Both Sexes	Men	Women	Both Sexes
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
1946.....	12.4	37.4	15.6	16.6	17.1	16.8	14.4	21.9	16.3
1947.....	12.3	37.9	15.4	16.5	17.1	16.7	14.2	21.8	16.1
1948.....	12.8	40.9	16.0	17.3	17.5	17.4	14.8	22.7	16.7
1949.....	13.8	42.0	17.0	18.4	17.7	18.1	15.9	22.9	17.6
1950.....	14.4	40.8	17.5	19.9	18.2	19.3	16.9	23.4	18.5
1951.....	15.5	46.4	18.8	20.9	19.8	20.5	17.9	26.0	19.7
1952.....	16.4	46.1	19.6	22.1	19.2	21.1	18.9	25.6	20.4
1953.....	17.3	45.1	20.6	22.7	20.3	21.9	19.6	26.6	21.2
1954.....	19.2	47.6	22.6	24.2	21.1	22.2	20.6	27.8	22.2
1955.....	18.9	45.0	22.0	23.5	20.6	22.6	20.9	27.0	22.3
1956.....	19.4	47.5	22.8	24.1	20.9	23.0	21.4	27.8	22.9
1957.....	20.8	49.8	24.3	24.0	22.2	23.4	22.2	29.2	23.8

18.—Percentage Distribution of Male and Female Workers, by Range of Weekly Earnings, Week Ended Oct. 31, 1956

Range of Earnings	Durable Goods			Non-durable Goods			All Manufacturing		
	Men	Women	Both Sexes	Men	Women	Both Sexes	Men	Women	Both Sexes
WAGE-EARNERS									
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
Under \$10.....	--	1	--	1	3	1	--	2	1
\$ 10 to \$ 19.....	1	2	1	1	8	3	1	7	2
\$ 20 to \$ 29.....	2	8	2	3	22	9	2	19	6
\$ 30 to \$ 39.....	3	19	4	5	27	13	4	26	8
\$ 40 to \$ 49.....	6	23	8	10	22	14	8	22	11
\$ 50 to \$ 59.....	13	24	14	15	12	14	14	14	14
\$ 60 to \$ 69.....	23	16	22	20	5	15	22	7	18
\$ 70 to \$ 79.....	23	5	21	18	1	12	20	2	17
\$ 80 to \$ 89.....	13	2	13	11	--	8	13	1	10
\$ 90 to \$ 99.....	7	--	7	7	--	5	7	--	6
\$100 to \$109.....	4	--	3	4	--	3	4	--	3
\$110 to \$119.....	2	--	2	2	--	2	2	--	2
\$120 to \$129.....	1	--	1	1	--	1	1	--	1
\$130 to \$139.....	1	--	1	1	--	--	--	--	--
\$140 to \$149.....	--	--	--	--	--	--	--	--	--
\$150 or over.....	1	--	1	1	--	--	1	--	--
SALARIED EMPLOYEES									
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
Under \$10.....	--	--	--	--	--	--	--	--	--
\$ 10 to \$ 19.....	--	1	--	--	1	--	--	1	--
\$ 20 to \$ 29.....	--	3	1	1	5	2	1	4	2
\$ 30 to \$ 39.....	2	16	5	3	19	8	2	18	7
\$ 40 to \$ 49.....	4	32	11	6	31	13	5	31	12
\$ 50 to \$ 59.....	6	27	12	8	24	13	7	25	12
\$ 60 to \$ 69.....	10	14	11	11	12	12	10	12	11
\$ 70 to \$ 79.....	12	5	10	13	5	10	12	5	10
\$ 80 to \$ 89.....	13	2	10	12	2	9	13	2	10
\$ 90 to \$ 99.....	13	--	10	10	1	7	12	1	8
\$100 to \$109.....	11	--	8	9	--	6	10	1	7
\$110 to \$119.....	8	--	6	6	--	4	7	--	5
\$120 to \$129.....	5	--	4	5	--	3	5	--	4
\$130 to \$139.....	4	--	3	3	--	2	4	--	3
\$140 to \$149.....	2	--	2	2	--	2	2	--	2
\$150 or over.....	10	--	7	11	--	8	10	--	7

19.—Percentage Distribution of Male and Female Wage-Earners, by Range of Hours Worked, Week Ended Oct. 31, 1955

Range of Hours	Durable Goods			Non-durable Goods			All Manufacturing		
	Men	Women	Both Sexes	Men	Women	Both Sexes	Men	Women	Both Sexes
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
30 or less.....	4	8	4	5	12	7	4	12	6
31 — 34.....	4	5	4	3	7	4	4	6	4
35 — 39.....	6	11	7	7	15	10	7	14	8
40.....	38	36	38	29	22	27	34	25	32
41 — 43.....	11	12	11	11	13	12	11	13	11
44.....	6	4	6	6	6	6	6	6	6
45 — 47.....	10	12	10	13	13	13	11	12	12
48.....	6	4	6	9	4	8	7	4	7
49 — 50.....	4	3	4	5	3	4	4	3	4
51 — 53.....	4	2	3	4	2	3	4	2	3
54.....	1	1	1	1	1	1	1	1	1
55 — 64.....	5	2	5	6	2	4	6	2	5
65 or over.....	1	--	1	1	--	1	1	--	1

Section 4.—Wage Rates, Hours of Labour and Other Working Conditions

Statistics on occupational wage rates by industry and region or city, and standard weekly hours of labour are compiled by the federal Department of Labour and published in the annual report *Wage Rates and Hours of Labour*. The statistics published are based on an annual survey covering some 13,500 establishments in most industries and apply to the last normal pay period preceeding Oct. 1.

Average wage rates of time workers and average straight-time earnings of piece workers and other incentive workers in a given occupation are shown separately but are combined in the calculation of index numbers. Predominant ranges of rates for each occupation used are also given. Overtime pay is excluded.

The industry index numbers measure changes in wage rates for non-office employees below the rank of foreman. They do not, however, provide a basis for comparing the level of wages in one industry with that in another. More detailed information on concepts and methods of developing these statistics is given in the annual report.

20.—Index Numbers of Average Wage Rates for Certain Main Industrial Groups, 1948-57

(1949=100)

NOTE.—Indexes for the years prior to 1949 are conversions of the previous series on the 1939 base. Indexes back to 1901 may be obtained from the Department of Labour publication *Wage Rates and Hours of Labour 1957*.

Year	Logging	Coal Mining	Metal Mining	Manufacturing			Construc- tion	Rail- ways	Tele- phone	Personal Service	General Average
				Dur- able Goods	Non- durable Goods	All Manu- facturing					
1948.....	101.2	98.4	95.7	94.7	94.4	94.5	95.7	100.0	92.7	93.8	95.7
1949.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1950.....	97.0	102.8	106.8	106.6	105.6	106.1	104.8	105.1	104.8	102.9	105.5
1951.....	109.6	111.1	121.6	121.7	118.8	120.3	118.6	121.9	115.7	110.6	119.1
1952.....	133.3	124.0	130.1	130.2	126.5	128.4	128.6	136.8	128.4	117.6	127.7
1953.....	135.5	124.0	132.3	136.3	132.8	134.6	136.2	137.2	136.6	123.3	133.6
1954.....	138.0	123.5	136.7	140.0	136.9	138.5	140.0	137.8	147.6	128.6	137.9
1955.....	138.2	122.8	140.3	143.7	140.7	142.2	145.4	137.8	152.8	132.3	141.7
1956.....	160.8	123.6	150.8	151.2	148.3	149.8	150.7	146.8	157.6	136.1	148.7
1957.....	168.4	137.4	156.2	160.7	156.3	158.6	160.7	153.3	165.9	138.9	156.5

21.—Index Numbers of Average Wage Rates, by Industry, 1954-57

(1949=100)

Industry	1954	1955	1956	1957
Logging	138.0	138.2	160.8	168.4
Eastern Canada.....	137.8	136.9	163.0	169.5
British Columbia, coastal.....	138.9	143.7	151.2	163.6
Mining	132.6	134.9	142.4	150.4
Metal mining.....	136.7	140.3	150.8	156.2
Gold mining.....	125.4	126.0	141.4	143.4
Other metal mining.....	143.7	149.1	156.6	164.1
Coal mining.....	123.5	122.8	123.6	137.4
Manufacturing	138.5	142.2	149.8	158.6
Foods and beverages.....	135.5	140.3	147.9	156.7
Slaughtering and meat packing.....	138.5	144.2	151.2	161.4
Dairy products.....	132.6	138.1	143.7	151.4
Canned and cured fish.....	124.5	125.8	135.6	140.8
Flour mills.....	150.0	155.6	158.7	166.7
Biscuits.....	146.3	149.4	156.5	168.9
Bread and other bakery products.....	134.6	139.4	150.0	159.1
Breweries.....	152.9	157.9	168.6	181.3
Confectionery.....	141.2	145.4	153.7	164.2
Tobacco, cigars and cigarettes.....	155.0	160.3	164.8	174.6
Rubber products.....	138.1	139.6	145.0	150.4
Leather products.....	133.1	134.5	143.8	151.5
Boots and shoes.....	133.2	134.2	144.6	151.5
Leather tanneries.....	132.6	135.8	140.5	151.3
Textile products (except clothing).....	129.5	131.0	135.7	141.6
Cotton yarn and broad woven goods.....	129.5	131.5	138.6	143.0
Woolen and worsted woven goods and yarn.....	134.6	137.3	139.7	148.6
Synthetic and silk textiles.....	125.4	125.3	128.1	133.8
Clothing (textile and fur).....	126.8	129.7	136.4	144.0
Men's clothing.....	132.3	134.7	143.4	150.4
Men's and boys' suits and overcoats.....	130.8	133.3	143.4	148.3
Men's fine shirts.....	136.2	136.8	137.8	151.3
Work clothing and sportswear.....	132.8	136.6	147.6	154.7
Women's clothing.....	113.7	121.2	125.0	133.1
Women's and misses' coats and suits.....	119.5	125.2	126.7	135.6
Women's and misses' dresses.....	110.2	118.8	123.9	131.6
Hosiery and other knitted goods.....	137.0	135.0	141.8	149.4
Fur goods.....	118.2	122.4	129.8	138.8
Wood products.....	132.6	136.4	142.9	152.6
Sash and door, and planing mills.....	135.2	138.0	144.4	152.8
Sawmills.....	134.3	138.1	144.6	155.5
Wooden furniture.....	126.8	131.1	137.5	145.2
Paper products.....	145.5	151.7	162.7	171.6
Paper boxes and containers.....	138.2	142.0	149.3	158.3
Pulp and paper.....	146.9	153.6	165.2	174.1
Pulp.....	144.2	150.9	162.0	171.2
Newsprint.....	144.4	151.8	162.7	170.8
Paper other than newsprint.....	147.4	155.1	165.3	175.8
Printing, publishing and allied industries.....	142.8	146.9	152.5	159.5
Printing and publishing other than daily newspapers.....	130.0	141.6	146.7	153.7
Daily newspapers.....	149.4	155.8	162.5	169.5
Iron and steel products.....	143.3	148.0	156.4	165.2
Agricultural implements.....	142.5	144.6	143.5	152.0
Heating and cooking apparatus.....	145.2	149.3	161.4	170.1
Household, office, store and industrial machinery.....	143.5	147.5	153.5	161.4
Iron castings.....	140.6	145.1	153.9	161.8
Machine shop products.....	148.0	150.4	156.3	164.2
Primary iron and steel.....	140.1	148.9	165.3	176.0
Sheet metal products.....	150.8	150.8	157.9	166.2
Transportation equipment.....	140.0	142.3	149.9	158.8
Aircraft and parts.....	154.2	158.3	163.6	169.9
Auto repair and garages.....	145.1	144.8	155.6	164.9
Motor vehicles.....	130.0	134.1	142.7	152.6
Motor vehicle parts and accessories.....	144.5	147.1	157.4	166.2
Railroad and rolling-stock equipment.....	134.1	137.1	140.2	148.7
Shipbuilding and repairing.....	140.1	144.6	148.0	157.1
Brass and copper products.....	145.4	149.4	153.7	166.0
Electrical apparatus and supplies.....	139.5	142.8	149.9	158.2
Heavy electrical machinery and equipment.....	142.4	143.3	148.9	153.5
Radio, television and other electronic equipment.....	133.0	138.8	145.3	150.0
Refrigerators, vacuum cleaners and miscellaneous electrical products.....	140.4	143.5	151.0	162.6

21.—Index Numbers of Average Wage Rates, by Industry, 1954-57—concluded

Industry	1954	1955	1956	1957
Manufacturing—concluded				
Clay products.....	144.7	149.2	161.0	170.7
Petroleum refining and products.....	147.5	154.0	164.0	176.1
Chemical products.....	146.2	150.3	160.2	169.4
Acids, alkalies and salts.....	147.9	153.2	164.2	175.1
Medicinal, pharmaceutical and toilet preparations.....	141.4	144.5	155.5	164.2
Paints, varnishes and lacquers.....	150.9	155.0	162.6	170.9
Durable goods ¹	140.0	143.7	151.2	160.7
Non-durable goods ¹	136.9	140.7	148.3	156.3
Construction (buildings and structures only).....	140.0	145.4	150.7	160.7
Transportation, Storage and Communication.....	140.6	142.9	152.0	159.6
Transportation.....	139.5	141.1	151.0	158.4
Railways.....	137.8	137.8	146.3	153.3
Urban and suburban transportation systems.....	140.2	143.5	153.3	158.8
Truck transportation.....	144.1	149.0	158.3	169.8
Water transportation.....	139.9	142.1	164.7	166.7
Storage (terminal grain elevators only).....	140.2	148.0	154.7	163.1
Communication (telephone only).....	147.6	152.8	157.6	165.9
Electric Light and Power.....	149.7	158.1	169.7	179.2
Trade.....	137.8	142.2	146.2	153.5
Wholesale trade.....	142.8	148.5	157.5	165.8
Retail trade.....	135.8	139.8	141.8	148.7
Personal Service.....	128.6	132.3	136.1	138.9
Laundries.....	132.3	134.0	140.9	148.5
Restaurants.....	128.0	132.0	135.3	137.2
General Index, All Industries.....	137.9	141.7	148.7	156.5

¹ These groups are composites of the manufacturing groups listed above. Durable goods include wood products, iron and steel products, transportation equipment, brass and copper products, electrical apparatus and supplies and clay products; non-durable goods include all other manufacturing industries.

22.—Average Hourly Wage Rates for Selected Occupations in Manufacturing, by Province,
Oct. 1, 1957
(Time Work)

Industry and Occupation	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.
	\$	\$	\$	\$	\$	\$	\$	\$
Industrial Machinery—								
Machinist.....	—	—	1.68	1.91	1.74	—	—	2.23
Moulder.....	—	—	1.89	1.75	—	—	—	—
Floor.....	—	—	1.71	1.89	—	—	—	—
Machine.....	—	—	1.41	1.77	—	—	—	2.14
Newsprint—								
Machine tender.....	3.53 ¹	—	3.48	3.46	—	—	—	3.38
Roll-finisher.....	1.84 ¹	—	1.83	1.81	—	—	—	1.76
Sawmills—								
Edgerman.....	0.98	1.15	1.19	1.36	—	—	—	1.96
Slaughtering and Meat Packing—								
Butcher.....	—	—	1.84	1.74	1.93	1.80	1.93	2.01
Truck driver.....	—	—	1.80	1.63	1.85	1.78	1.84	1.92
Woollen and Worsted Woven Goods and Yarn—								
Woollen spinner, male.....	—	—	0.99	1.12	—	—	—	—
Winder, spooler and reeler, female.....	—	—	0.82	0.93	—	—	—	—

¹ Atlantic Provinces.

23.—Average Wage and Salary Rates for Selected Occupations in Certain Cities, Oct. 1, 1957

(Time work)

Industry and Occupation	Halifax	Montreal	Toronto	Winnipeg	Vancouver
	\$ per hr.	\$ per hr.	\$ per hr.	\$ per hr.	\$ per hr.
Construction (buildings and structures only)—					
Bricklayer and mason.....	2.09	2.20	2.76	2.35	2.60
Carpenter.....	1.84	2.00	2.50	2.15	2.44
Electrician.....	1.94	2.00	2.80	2.35	2.81
Painter.....	1.60	1.90	2.17	1.90	2.45
Plasterer.....	1.98	2.27	2.60	2.35	2.50
Plumber.....	1.93	2.22	2.44	2.40	2.70
Sheet metal worker.....	1.70	2.00	2.55	2.10	2.35
Labourer.....	1.33	1.40	1.55	1.30	1.81
Truck driver.....	1.35	1.40	1.55	1.40	1.78
Urban and Suburban Transportation Systems—					
Operator, bus, streetcar and trolley bus ¹	1.68	1.59 ²	1.78	1.68	1.89
Body repairman, streetcar and bus.....	..	1.72	1.94	1.78	2.04
Repairman, streetcar and trolley bus.....	1.63	1.67	1.86	1.65	1.98
Electrician.....	1.75	1.72	1.90	1.78	2.03
Labourer.....	1.38	1.33	1.56	1.35	1.69
Printing, Publishing and Allied Industries—					
Daily Newspapers—					
Compositor, hand and linotype operator.....	2.32	2.95	3.12	2.07½	2.68
Pressman.....	2.29	2.93	3.12	1.99	2.68
Other than Daily Newspapers—					
Compositor, hand.....	1.53	2.23	2.40	1.99	2.53
Pressman, cylinder.....	1.48	2.18	2.27	1.93	2.53
Manufacturing—					
Labourer, male.....	1.28	1.40	1.54	1.32	1.71
Maintenance Trades—					
Carpenter.....	..	1.83	1.91	1.76	2.12
Electrician.....	..	2.00	2.05	1.88	2.22
Machinist.....	..	2.03	1.96	1.69	2.19
Mechanic.....	..	1.72	1.93	1.72	2.10
Millwright.....	..	1.91	1.97	1.66	2.19
	\$ per wk.	\$ per wk.	\$ per wk.	\$ per wk.	\$ per wk.
Office Occupations, Male—					
Bookkeeper, senior.....	..	78.81	78.04	78.52	79.79
Bookkeeper, junior.....	..	60.94	63.86	53.33	62.57
Cost accounting clerk.....	..	71.31	69.32	63.96	83.62
Order clerk.....	..	70.93	67.76	60.44	75.41
Office Occupations, Female—					
Machine Operator—					
Bookkeeping.....	..	55.07	54.66	46.14	51.00
Calculating.....	..	51.83	53.71	45.56	51.66
Payroll clerk.....	44.72	53.74	54.35	46.06	53.79
Private secretary.....	52.72	71.52	68.56	57.96	66.83
Stenographer, senior.....	45.95	59.85	59.05	49.56	56.61
Stenographer, junior.....	39.90	51.36	52.41	40.92	47.71
Typist, senior.....	..	51.16	50.84	43.93	48.77
Typist, junior.....	..	44.39	44.76	36.15	41.99

¹ Maximum rates based on length of service.² Operators of two-man streetcars excluded.

**24.—Average Standard or Normal Hours of Labour per Week for Employees in
Selected Industries, by Province, 1953-57**

Industry and Year	Atlantic Prov- inces ¹	Quebec	Ontario	Manitoba	Saskat- chewan	Alberta	British Columbia
	hrs.	hrs.	hrs.	hrs.	hrs.	hrs.	hrs.
Work clothing.....1953 ²	43.8	43.6	41.1	40.4	..	40.0	40.0
1954	44.0	44.2	40.9	40.0	..	40.0	40.9
1955	44.0	43.1	40.7	40.0	..	..	40.5
1956	41.7	43.4	40.8	40.0	..	40.0	40.4
1957	42.0	42.4	41.0	40.0	..	40.0	40.0
Pulp and paper.....1953 ²	44.2	46.4	41.3	..	..	..	40.0
1954	41.1	41.6	40.6	40.0	..	..	40.0
1955	41.3	40.7	40.5	..	..	..	40.0
1956	41.3	40.7	40.6	..	..	..	40.0
1957	41.1	40.3	40.5	..	..	..	40.0
Wood products.....1953 ²	49.9	50.7	45.7	45.3	45.4	46.1	40.4
1954	51.0	51.2	46.0	44.2	44.0	45.5	40.7
1955	50.2	50.0	45.8	44.2	44.0	44.7	40.6
1956	50.1	50.0	45.4	44.2	44.0	44.8	40.3
1957	49.5	50.2	44.6	44.3	44.0	44.3	40.2
Meat products.....1953 ²	41.4	41.7	41.8	40.1	40.4	40.0	40.0
1954	40.9	42.0	41.5	40.2	40.3	40.0	40.0
1955	40.6	41.9	41.8	40.3	40.3	40.0	40.0
1956	40.4	41.6	41.9	40.2	40.2	40.0	40.0
1957	40.0	40.8	42.2	40.2	40.0	40.0	40.0 ²
Iron and its products.....1953 ²	41.0	44.3	41.4	44.3	44.0	41.7	40.8
1954	40.7	43.2	41.0	43.7	42.8	41.6	40.1
1955	40.6	43.2	40.9	42.8	42.3	41.2	40.2
1956	40.4	43.0	40.8	41.2	41.0	41.5	40.1
1957	40.3	42.7	40.6	41.1	40.3	41.4	40.2
Woollen yarn and cloth.....1953 ²	46.3	46.6	45.7	42.2	..	..	42.2
1954	44.2	45.9	45.3	42.5	..	..	42.3
1955	43.8	46.5	44.7	40.3	..	..	42.3
1956	43.8	46.4	44.7	41.1	..	..	42.3
1957	42.3	46.7	44.5	..	..	..	..

¹ Exclusive of Newfoundland.² Male employees only.

**25.—Summary of Working Conditions of Plant Employees in Manufacturing Industries
as at Apr. 1, 1954-57**

SOURCE: Annual Survey of Working Conditions, Economics and Research Branch, Department of Labour.

Item	1954	1955	1956	1957
Coverage..... No.	803,000	765,000	800,000	805,000
PERCENTAGES OF PLANT EMPLOYEES				
Standard Weekly Hours—				
40 and under.....	52.8	57.9	62.1	66.3
Over 40 and under 44.....	13.9	11.5	11.2	11.1
44.....	7.7	6.8	5.8	4.5
45.....	12.5	11.2	9.5	8.8
Over 45 and under 48.....	1.7	1.8	1.7	1.6
48.....	7.2	7.1	6.0	4.4
Over 48.....	4.2	3.7	3.7	3.3
Employees on a five-day week.....	82.5 ¹	83.9 ¹	85.5 ¹	88.4

For footnote, see end of table.

25.—Summary of Working Conditions of Plant Employees in Manufacturing Industries
as at Apr. 1, 1954-57—concluded

Item	1954	1955	1956	1957
PERCENTAGES OF PLANT EMPLOYEES				
Premium Rates—				
Employees in establishments where higher than straight-time rates are paid after daily or weekly hours.....	..	..	..	..
Employees in establishments where time and one-half is paid after daily or weekly hours.....	..	88.6	..	..
Shift Differentials—				
Employees in establishments where shift work is performed	..	78.0 ²	..	80.2 ²
Employees in establishments where shift differentials are paid.....	..	68.6	..	63.4
Paid Statutory Holidays—				
Employees receiving paid statutory holidays.....	93.6	94.4	93.8	96.6
Employees being paid for the following number of statutory holidays—				
1 to 5.....	17.2	14.3	11.8	10.9
6.....	13.1	12.6	8.4	7.4
7.....	11.3	11.2	12.0	10.9
8.....	43.4	47.3	51.5	53.4
More than 8.....	8.6	9.0	10.1	14.0
Vacations with Pay—				
Eligible for two weeks with pay.....	92.0	92.4	92.3	94.8
After: 1 year or less.....	15.5	15.6	15.5	17.8
2 years.....	10.3	11.4	11.5	12.6
3 years.....	25.5	27.0	27.9	29.5
5 years.....	35.2	34.7	33.7	31.5
Other.....	5.5	3.7	3.7	3.4
Eligible for three weeks with pay.....	53.6	60.0	62.9	67.6
After: 15 years.....	36.9	43.7	47.0	50.4
20 years.....	6.9	6.4	5.6	4.9
Other.....	9.8	9.9	10.3	12.3
Eligible for four weeks with pay.....	5.0	6.8	10.2	12.4
After: 25 years.....	4.1	5.8	7.6	10.0
Other.....	0.9	1.0	2.6	2.4
Other vacation periods.....	..	..	..	..
Shutdown for Vacation—				
Employees in establishments reporting a shutdown period	58.9	..	..	..
Employees in establishments reporting a shutdown period of two weeks.....	46.9	..	..	..
Rest Periods—				
Employees in establishments reporting rest periods.....	61.7	..	65.7	..
Employees in establishments receiving two periods of 10 minutes each.....	42.7	..	42.7	..
Sick Leave—				
Employees in establishments reporting a provision for sick leave.....	..	..	..	..

¹ Includes a small number of employees in plants reporting alternate weeks of 5 and 5½ days.
² Establishments employing 63 p.c. of the number of workers covered by the survey in 1955 reported regular shift work, and establishments employing 15 p.c. reported occasional shift work; percentages in 1957 were 66 and 14, respectively.

26.—Summary of Working Conditions of Office Employees in Manufacturing Industries as at Apr. 1, 1954-57

SOURCE: Annual Survey of Working Conditions, Economics and Research Branch, Department of Labour.

Item	1954	1955	1956	1957
Coverage..... No.	196,000	196,000	205,000	225,000
	PERCENTAGES OF OFFICE EMPLOYEES			
Standard Weekly Hours—				
Under 37½.....	21.0	21.9	21.9	23.2
37½.....	34.9	38.2	40.8	41.1
Over 37½ and under 40.....	15.0	12.0	9.6	8.9
40.....	21.0	20.0	21.2	21.7
Over 40.....	8.1	7.9	6.5	5.1
Employees on a five-day week.....	88.5 ¹	89.1 ¹	90.9 ¹	92.1
Compensation for Overtime Work—				
Employees in establishments reporting—				
Compensating time off.....	..	..	..	9.0
Remuneration of straight-time rates.....	..	..	..	14.9
Remuneration at higher than straight-time rates.....	..	..	..	29.4
Meal allowances ²	..	..	..	40.1
Other provisions.....	..	..	..	8.8
Paid Statutory Holidays—				
Employees receiving paid statutory holidays.....	98.9	99.1	99.0	99.6
Employees being paid for the following number of statutory holidays—				
1 to 6.....	6.5	6.8	4.2	4.3
7.....	11.4	10.7	9.7	9.4
8.....	61.0	61.1	60.8	61.0
9.....	13.6	14.9	17.5	19.5
More than 9.....	6.4	5.6	6.8	5.4
Vacations with Pay—				
Eligible for two weeks with pay.....	96.0	98.6	98.7	98.7
After: 1 year or less.....	87.0	89.3	90.1	91.2
2 years.....	5.0	5.3	5.2	5.2
3 years.....	0.8	1.0	0.9	0.9
5 years.....	1.6	1.3	2.0	1.1
Other.....	1.6	1.7	0.5	0.3
Eligible for three weeks with pay.....	63.8	69.4	71.9	76.4
After: 10 years or fewer.....	5.4	5.4	10.3	14.7
15 years.....	43.4	51.0	51.3	52.2
20 years.....	7.2	6.7	5.5	3.9
Other.....	7.8	6.3	4.8	5.6
Eligible for four weeks with pay.....	5.5	7.6	12.9	16.1
After: 25 years.....	4.2	6.1	9.1	12.2
Other.....	1.3	1.5	3.8	3.9
Other vacation periods.....	..	..	..	..
Sick Leave—				
Employees in establishments reporting a provision for sick leave.....	..	93.4	..	..
Group Sickness or Accident Insurance Plan—				
Employees in establishments reporting a group sickness or accident insurance plan.....	..	..	..	..
Group Life Insurance—				
Employees in establishments reporting group life insurance..	87.4	90.1	90.5	93.5
Pension Plan—				
Employees in establishments reporting a pension plan.....	71.7	74.4	78.4	81.3

¹ Includes a small number of employees in establishments reporting alternate weeks of 5 and 5½ days. ² Meal allowances are sometimes reported as given in addition to other types of overtime compensation, or as the sole type of overtime compensation.

Wages of Farm Labour.—Wage rates for farm help have been increasing slightly over the past few years. Moderate gains were recorded in 1952 and 1953 and after levelling off in 1954 and 1955 the upward trend was resumed in 1956. The information on farm wages is provided by volunteer farm correspondents located in all provinces except Newfoundland.

27.—Average Daily and Monthly Wages of Male Farm Help as at Jan. 15, May 15 and Aug. 15, 1954-58

NOTE.—Figures from 1940 are given in the corresponding table of previous Year Books beginning with the 1943-44 edition.

Province and Year	January 15				May 15				August 15			
	Daily		Monthly		Daily		Monthly		Daily		Monthly	
	With Board	Without Board	With Board	Without Board	With Board	Without Board	With Board	Without Board	With Board	Without Board	With Board	Without Board
	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
Maritimes—												
1954.....	4.30	5.40	89.00	120.00	4.20	5.10	87.00	111.00	4.50	5.60	92.00	123.00
1955.....	4.40	5.40	88.00	114.00	4.50	5.40	92.00	116.00	4.80	5.70	98.00	123.00
1956.....	4.60	5.60	90.00	117.00	4.70	5.70	96.00	119.00	5.00	5.80	102.00	125.00
1957.....	4.80	6.00	100.00	120.00	4.80	6.00	100.00	121.00	5.00	6.10	103.00	126.00
1958.....	4.90	5.70	93.00	129.00	5.00	5.80	98.00	130.00	5.00	6.00	98.00	131.00
Quebec—												
1954.....	4.60	5.90	93.00	128.00	4.60	5.80	91.00	125.00	4.80	6.00	94.00	127.00
1955.....	4.60	5.90	91.00	125.00	4.60	5.90	92.00	126.00	5.10	6.20	96.00	131.00
1956.....	4.70	5.90	92.00	123.00	5.10	6.30	100.00	135.00	5.50	6.80	108.00	147.00
1957.....	5.20	6.50	102.00	141.00	5.60	6.60	108.00	145.00	5.80	7.20	113.00	145.00
1958.....	5.30	6.80	103.00	139.00	5.60	6.90	106.00	146.00	5.60	7.30	115.00	149.00
Ontario—												
1954.....	4.90	6.20	84.00	118.00	5.00	6.20	87.00	118.00	5.40	6.80	88.00	125.00
1955.....	4.90	6.10	84.00	115.00	5.20	6.60	91.00	123.00	5.50	6.80	90.00	125.00
1956.....	5.20	6.60	86.00	126.00	5.50	6.80	96.00	131.00	6.00	7.60	104.00	138.00
1957.....	5.50	7.10	98.00	139.00	5.70	7.00	104.00	143.00	6.20	7.80	105.00	141.00
1958.....	5.60	7.10	101.00	139.00	5.90	7.40	106.00	145.00	6.10	8.00	105.00	143.00
Manitoba—												
1954.....	4.60	5.80	78.00	110.00	5.00	6.20	104.00	135.00	5.90	7.20	105.00	130.00
1955.....	4.20	5.80	75.00	114.00	5.10	6.70	99.00	127.00	5.80	7.10	102.00	128.00
1956.....	4.60	6.80	78.00	116.00	5.50	6.90	110.00	148.00	6.40	7.70	116.00	151.00
1957.....	5.20	7.20	82.00	123.00	5.80	7.40	118.00	151.00	6.80	8.20	121.00	146.00
1958.....	5.40	7.20	91.00	132.00	6.30	7.80	126.00	163.00	6.50	8.20	124.00	157.00
Saskatchewan—												
1954.....	4.90	6.10	80.00	111.00	5.80	7.50	118.00	145.00	5.90	7.50	120.00	148.00
1955.....	4.30	5.80	74.00	109.00	5.40	6.80	116.00	141.00	6.20	7.90	118.00	151.00
1956.....	4.70	6.40	77.00	115.00	5.80	6.90	120.00	150.00	6.60	8.20	127.00	159.00
1957.....	5.10	6.70	82.00	112.00	6.40	7.60	131.00	166.00	7.30	8.90	135.00	168.00
1958.....	5.10	6.90	91.00	125.00	6.50	7.80	137.00	169.00	7.30	8.90	137.00	168.00
Alberta—												
1954.....	5.50	6.80	97.00	135.00	5.70	7.30	115.00	148.00	6.10	7.40	117.00	152.00
1955.....	4.70	6.00	93.00	125.00	5.50	7.30	112.00	145.00	6.10	7.50	115.00	151.00
1956.....	5.00	6.60	94.00	130.00	6.30	7.70	122.00	160.00	6.60	8.00	123.00	157.00
1957.....	5.40	6.80	101.00	137.00	6.40	8.00	130.00	166.00	6.70	8.20	127.00	164.00
1958.....	5.60	7.00	109.00	143.00	6.50	8.40	132.00	171.00	7.30	8.70	132.00	159.00
British Columbia—												
1954.....	6.20	8.30	99.00	140.00	5.90	7.50	111.00	156.00	6.80	8.00	120.00	159.00
1955.....	6.00	8.00	100.00	140.00	6.60	7.90	114.00	153.00	6.70	8.00	115.00	160.00
1956.....	6.20	8.00	101.00	147.00	6.60	7.90	115.00	154.00	7.60	8.50	120.00	165.00
1957.....	7.20	8.40	118.00	171.00	6.60	8.50	127.00	182.00	7.30	8.50	121.00	178.00
1958.....	7.10	8.30	123.00	179.00	7.20	9.00	134.00	186.00	7.40	9.30	130.00	185.00
Totals—												
1954.....	4.60	5.90	88.00	122.00	4.80	6.00	102.00	133.00	5.10	6.40	106.00	139.00
1955.....	4.60	5.80	85.00	119.00	4.90	6.10	103.00	133.00	5.40	6.60	103.00	136.00
1956.....	4.80	6.10	86.00	123.00	5.30	6.50	109.00	143.00	5.80	7.10	115.00	150.00
1957.....	5.20	6.50	96.00	134.00	5.60	6.90	118.00	156.00	6.10	7.50	118.00	153.00
1958.....	5.30	6.70	101.00	139.00	5.80	7.10	118.00	156.00	6.00	7.60	120.00	154.00

Section 5.—Unemployment Insurance

During the depression of the 1930's the necessity arose for some form of systematic unemployment assistance, for legislation that would provide for federal control and administration of such assistance and for an employment service that would be closely related to it. Thus in 1935 the Employment and Social Insurance Act was passed by the Federal Parliament but was subsequently declared invalid by the Privy Council. Later, consent of the provinces was sought to an amendment to the British North America Act to empower the Federal Parliament to legislate on unemployment insurance and in 1940 the Unemployment Insurance Act was passed, making provision for a compulsory contributory unemployment insurance scheme and also for the establishment of a national employment service to operate in conjunction with and ancillary to the unemployment insurance operations carried on under the Act. The Act, which came into effect on July 1, 1941, was later amended on several occasions and was replaced by a new Unemployment Insurance Act passed on July 1, 1955, and effective Oct. 2, 1955.

Legislation provides for compulsory coverage of four-fifths of non-agricultural employees under an insurance program administered by the Federal Government and requires employers to join with their insurable employees and the Government in building up a fund. This fund is held in trust by the Unemployment Insurance Commission for the payment of benefits to unemployed insured persons. The Act is administered by a Commission of three persons appointed by the Governor in Council of whom one is the Chief Commissioner. One Commissioner, other than the Chief Commissioner, is appointed after consultation with employer organizations, and the other after consultation with employee organizations.

The Unemployment Insurance Act applies to all persons employed under a contract of service, except the following: employment in specified industries or occupations such as agriculture, horticulture, forestry (effective Jan. 1, 1956, coverage was also extended to certain employments in these three industries); the Canadian Armed Forces; the permanent public service of the Federal Government; provincial government employees except where insured with the concurrence of the government of the province; certified permanent employees of municipal or public authorities; private domestic service; private duty nursing; teaching; certain director-officers of corporations; workers on other than an hourly, daily or piece-rate, earning more than \$4,800 a year unless they elect to continue as insured persons; employees in a charitable institution or in a hospital not carried on for purpose of gain except where the institution or hospital consents to insure certain groups or classes of persons with the concurrence of the Commission. All persons paid by the hour, day, or at a piece-rate (including a mileage rate) are insured regardless of amount of earnings, together with all employees who receive \$4,800 or less at weekly, monthly, yearly or commission rates.

Unemployment Insurance Fund.—Employers and employees contribute to the Unemployment Insurance Fund, the total paid by each group being equal. The Federal Government contributes an amount equal to one-fifth of the combined employer-employee contributions and assumes the cost of administration. From July 1, 1941 to Mar. 31, 1957, employers and employees contributed \$1,757,865,079 to the Fund and the Federal Government added \$351,569,530. Interest and profit on the sale of securities amounting to \$223,134,877 and fines of \$294,145 made a total revenue of \$2,332,863,631.

Benefits first became payable on Jan. 27, 1942, and from that date to Mar. 31, 1957, total benefit payments amounted to \$1,458,288,979, leaving a balance of \$874,574,652 in the Fund. Revenues of the Fund are invested in Government of Canada bonds the par value of which amounted to \$878,402,500 as at Mar. 31, 1957.

WEEKLY RATES OF CONTRIBUTION AND BENEFIT UNDER THE UNEMPLOYMENT INSURANCE ACT, EFFECTIVE OCT. 2, 1955

Range of Earnings	Weekly Contributions ¹		Value of Weekly Stamp ²	Range of Average Weekly Contributions	Weekly Rate of Benefit ³	
	Employer	Employee			Person Without Dependant	Person With Dependant
	cts.	cts.	cts.	cts.	\$	\$
Less than \$ 9.00 ⁴	8	8	16	Less than 20.....	6	8
\$ 9.00 to \$14.99.....	16	16	32	20 and under 27.....	9	12
\$15.00 to \$20.99.....	24	24	48	27 " " 33.....	11	15
\$21.00 to \$26.99.....	30	30	60	33 " " 39.....	13	18
\$27.00 to \$32.99.....	36	36	72	39 " " 45.....	15	21
\$33.00 to \$38.99.....	42	42	84	45 " " 50.....	17	24
\$39.00 to \$44.99.....	48	48	96	50 " " 54.....	19	26
\$45.00 to \$50.99.....	52	52	1.04	54 " " 58.....	21	28
\$51.00 to \$56.99.....	56	56	1.12	58 to 60.....	23	30
\$57.00 or over.....	60	60	1.20			

¹ The weekly contribution is based on actual earnings in the week irrespective of the number of days in which the earnings are obtained.

² Unemployment insurance stamps combine both employer and employee contributions.

³ Rates calculated on the average weekly contributions for the last 30 weeks in the 104 weeks preceding claim. Since Oct. 2, 1955, a claimant to qualify for benefit must have at least 30 weekly contributions in the last 104 weeks prior to claim; 8 weeks must be in the last 52 weeks. (These periods of 104 weeks and 52 weeks may be extended under certain circumstances.)

⁴ Employees earning less than \$9 in a week receive one-half of a 32-cent stamp (8 cents from the employer and 8 cents from the employee).

The duration of benefit is related to the contribution history—one week's benefit for every two weeks' contributions in the past 104 weeks with a maximum of 36 weeks. The rate of benefit is determined by the average of the contributions in the past 30 weeks. No benefit is payable in a benefit period until a claimant has served a waiting period equivalent to one full week's benefit.

Disqualifications for benefit include: loss of work owing to a labour dispute in which the contributor is participating or directly interested; unwillingness to accept suitable employment; being an inmate of any prison or any institution supported out of public funds; refusal to attend a course of instruction or training if directed to do so; residence outside Canada unless otherwise prescribed. Disqualification of a claimant for a period not exceeding six weeks may be imposed if an employee is discharged by reason of his own misconduct or leaves the employment voluntarily without just cause or refuses suitable employment.

Seasonal benefit is payable in the period Dec. 1 to mid-May to certain claimants whose benefits have been exhausted or who have insufficient contributions to qualify for regular benefit. Prior to 1957 the period was Jan. 1 to mid-April.

Statistics of Unemployment Insurance.*—Detailed statistics on unemployment insurance, collected for administration purposes, also provide information of general interest on employment and unemployment and on financial aspects of the scheme. Table 28 shows, for 1956 and 1957, the number of claims received each month in local offices of the Unemployment Insurance Commission, the number of active claimants at each month-end, the average weekly number of beneficiaries each month and total benefits paid. The number of claims received shows the volume of new cases of recorded unemployment among insured persons, while the number of active claimants at month-end indicates recorded unemployment at a given time. Initial and renewal claims filed in 1957 increased by 747,851 from the previous year to a total of 2,373,235. The month-end count of active claimants, who were either applying for or receiving benefit, averaged 272,349 in 1956 and 380,178 in 1957. The average weekly number of beneficiaries in the peak month of March was 451,500 in 1956 and 498,300 in 1957. By December of that year the figure was up from the previous year's average by some 214,000. Benefits paid rose from \$210,000,000 in 1956 to \$305,000,000 in 1957.

* Statistics of unemployment insurance are compiled and published by the Unemployment Insurance Section, Labour Division, Dominion Bureau of Statistics, from material supplied by the Unemployment Insurance Commission. More detailed analysis of these data is available in DBS publication *Annual Report on Benefit Periods Established and Terminated under the Unemployment Insurance Act* and monthly *Statistical Report on Operations of the Unemployment Insurance Act*.

**28.—Claims Filed, Active Claimants, Beneficiaries and Amount Paid, by Month,
1956 and 1957**

Month	1956				1957			
	Initial and Renewal Claims Filed	Active Claimants, End of Month	Benefici- aries, Weekly Average	Amount Paid	Initial and Renewal Claims Filed	Active Claimants, End of Month	Benefici- aries, Weekly Average	Amount Paid
	No.	No.	No.	\$	No.	No.	No.	\$
January.....	263,807	476,946	313,300	24,632,203	361,055	545,981	365,000	33,439,112
February.....	188,612	510,963	416,100	32,188,102	192,665	572,387	457,800	38,603,408
March.....	176,453	511,073	451,500	38,167,352	195,224	558,811	498,300	44,125,523
April.....	139,140	292,063	415,200	33,201,609	163,519	373,609	477,900	40,392,557
May.....	84,099	188,927	228,500	19,154,627	104,326	250,283	313,300	26,269,582
June.....	55,212	136,032	128,100	9,930,856	86,419	204,516	177,300	14,356,036
July.....	73,547	138,467	104,000	7,927,559	114,107	205,779	155,800	13,799,832
August.....	74,992	132,276	102,700	8,170,564	115,287	208,708	155,100	13,033,311
September.....	65,007	128,440	99,100	7,087,703	124,949	226,530	166,000	13,809,589
October.....	87,929	139,377	95,500	8,066,104	167,363	268,005	177,500	16,331,548
November.....	151,356	215,378	108,600	9,275,471	249,108	403,273	227,400	18,989,040
December.....	265,230	398,244	155,000	12,528,015	499,213	744,248	369,000	31,926,951
Totals.....	1,625,384	272,349	218,133	210,330,165	2,373,235	380,178	295,033	305,076,489

In addition to the monthly data published on the operation of the Unemployment Insurance Act, annual tabulations are published of the persons employed in insurable employment and of benefit periods established and terminated. The data on the insured population in Table 29 were obtained from returns from the renewal of insurance books and contribution cards at June 1, 1956 and May 1, 1957. Included are persons contributing in insurable employment on those dates and persons on claim. The number insured at May 1, 1957, increased by 2.2 p.c. from the previous book renewal to 3,807,320. Unemployment insurance was extended to fishermen on Apr. 1, 1957. This coverage change is interesting since the majority of commercial fishermen in Canada are not wage-earners but sharesmen or lone workers. It was decided to treat as the 'employer' the person who first acquires the catch from the person who does the actual fishing. In some instances this is his actual employer, in others it is the buyer of the catch, and in still others it is the person or organization that markets the catch for the fisherman or makes contributions to the Fund. Fishermen were not considered for benefit until the 1957-58 seasonal benefit period.

**29.—Persons Insured under the Unemployment Insurance Act, by Industrial Group
and Sex, 1956 and 1957**

NOTE.—Based on a 10-p.c. sample of contributors and claimants at June 1, 1956 and May 1, 1957.

Industry	1956		1957	
	Male	Female	Male	Female
	No.	No.	No.	No.
Agriculture.....	5,750	650	6,080	1,380
Forestry and Logging.....	122,450	3,020	78,750	2,210
Fishing, Hunting and Trapping.....	670	30	10,620	200
Mining, Quarrying and Oil Wells.....	100,840	3,970	98,750	3,870
Metal mining.....	58,500	1,720	57,090	1,570
Fuels.....	24,480	860	25,760	1,360
Non-metal mining.....	8,320	260	8,900	180
Quarrying, clay and sand pits.....	4,620	110	3,800	50
Prospecting.....	4,920	1,020	3,200	710

29.—Persons Insured under the Unemployment Insurance Act, by Industrial Group and Sex, 1956 and 1957—concluded

Industry	1956		1957	
	Male	Female	Male	Female
	No.	No.	No.	No.
Manufacturing	920,680	298,250	952,970	303,320
Foods and beverages.....	113,850	49,500	117,110	43,520
Tobacco and tobacco products.....	3,770	5,360	3,520	5,290
Rubber products.....	15,410	5,040	15,160	4,640
Leather products.....	15,800	12,820	17,110	14,250
Textile products (except clothing).....	36,130	22,890	39,060	23,430
Clothing (textile and fur).....	29,500	70,880	32,780	75,820
Wood products.....	106,430	9,720	95,830	9,090
Paper products.....	72,770	12,940	75,070	13,580
Printing, publishing and allied industries.....	37,110	18,260	41,120	18,900
Iron and steel products.....	153,250	18,000	183,350	19,810
Transportation equipment.....	138,330	12,160	153,180	12,970
Non-ferrous metal products.....	46,180	6,980	52,460	7,690
Electrical apparatus and supplies.....	49,240	22,820	56,200	23,730
Non-metallic mineral products.....	34,790	4,320	32,890	3,950
Products of petroleum and coal.....	10,670	1,040	10,390	1,080
Chemical products.....	36,250	13,770	39,900	14,420
Miscellaneous manufacturing.....	16,500	11,750	17,840	11,150
Construction	369,040	9,140	309,070	9,270
General contractors.....	262,980	5,550	207,840	5,250
Subcontractors.....	106,060	3,590	101,230	4,020
Transportation, Storage and Communication	281,280	54,760	322,530	61,940
Transportation.....	248,830	17,560	283,790	19,840
Storage.....	10,970	1,660	13,860	1,870
Communication.....	21,480	35,540	24,880	40,230
Public Utility Operation	34,260	5,510	38,330	6,630
Trade	365,670	242,410	392,790	250,160
Wholesale.....	121,460	42,190	133,840	48,160
Retail.....	244,210	200,220	258,950	202,000
Finance, Insurance and Real Estate	46,860	48,080	49,550	92,120
Service	268,470	208,670	268,940	209,490
Community.....	19,280	23,630	20,470	25,050
Government.....	119,840	31,040	113,440	35,050
Recreation.....	14,170	7,450	13,530	7,380
Business.....	32,230	28,880	34,330	33,580
Personal.....	82,950	117,070	87,170	108,430
Unspecified	23,980	8,420	11,750	4,290
Claimants	178,460	89,610	219,130	73,180
Totals, All Industries	2,718,410	1,007,920	2,789,260	1,018,060

Table 30 distributes by province persons establishing regular benefit periods, regular benefit periods terminated, average weeks paid and average dollar benefit paid on these terminations. A claimant establishes a *regular benefit period* when he submits his claim in the prescribed manner and proves he has fulfilled the minimum contribution requirements. The duration of benefit authorized, the weekly rate authorized and his total entitlement is then calculated and his benefit may be drawn upon during successive intervals of unemployment. His benefit period terminates when either he has exhausted the amount authorized or 12 months have elapsed since he established, whichever comes first. The number establishing ordinary benefit periods in 1957 increased by 30.2 p.c. from 834,424 to 1,086,172. The duration of paid benefit in 1957 was 12 weeks on the average compared with 11 weeks in 1956. Ordinary benefits paid averaged \$256.26 on terminations in 1957, up from \$213.61 on terminations in 1956.

30.—Persons Establishing Regular Benefit Periods, Benefit Periods Terminated, and Duration and Amount of Benefit Paid, by Province, 1956 and 1957

NOTE.—Based on a 25-p.c. sample.

Province	1956				1957			
	Persons Establishing Benefit Periods	Benefit Periods Terminated	Average Weeks Paid on Termination	Average Amount Paid on Termination	Persons Establishing Benefit Periods	Benefit Periods Terminated	Average Weeks Paid on Termination	Average Amount Paid on Termination
	No.	No.	No.	\$	No.	No.	No.	\$
Newfoundland.....	22,548	19,032	14.10	296.15	25,704	25,736	15.50	356.97
Prince Edward Island.....	4,280	3,512	15.00	265.87	4,864	4,696	16.12	334.92
Nova Scotia.....	38,348	38,004	11.05	211.95	43,732	41,484	12.86	258.99
New Brunswick.....	36,396	30,456	12.82	249.79	44,116	41,312	14.16	299.01
Quebec.....	267,028	251,580	11.82	228.39	340,944	287,392	12.46	263.71
Ontario.....	267,264	272,164	9.90	191.72	373,192	281,820	11.40	242.35
Manitoba.....	38,856	34,896	12.80	241.27	41,924	40,016	11.63	239.40
Saskatchewan.....	24,208	22,808	13.24	258.57	26,812	25,140	11.75	250.79
Alberta.....	44,032	44,320	9.92	195.30	53,752	45,932	9.89	221.01
British Columbia.....	91,464	84,516	9.75	193.12	131,132	96,688	11.31	251.22
Totals.....	834,424	801,288	11.00	213.61	1,086,172	890,216	12.02	256.26

Table 31 gives ordinary benefit periods terminated and average weeks paid classified by the age of the claimant and by his occupational attachment.

31.—Regular Benefit Periods Terminated and Duration of Benefit Paid, classified by Age of Claimant and Occupation, 1956 and 1957

NOTE.—Based on a 25-p.c. sample.

Age Group or Occupation	1956		1957	
	Benefited Periods Terminated	Average Weeks Paid on Termination	Benefited Periods Terminated	Average Weeks Paid on Termination
	No.	No.	No.	No.
Age Group				
Under 20 years.....	27,908	8.28	36,372	10.93
20 — 24 ".....	136,020	9.02	143,600	10.77
25 — 34 ".....	239,704	9.77	249,576	10.98
35 — 44 ".....	161,964	10.11	180,836	11.23
45 — 54 ".....	118,560	11.27	139,836	12.10
55 — 64 ".....	76,584	15.71	86,108	13.61
65 or over.....	32,108	23.58	45,892	22.44
Unspecified.....	8,440	9.45	7,996	10.69
Totals.....	801,288	11.00	890,216	12.02
Occupation				
Managerial.....	7,048	14.22	6,456	14.78
Professional.....	5,960	10.98	5,728	13.01
Clerical.....	64,452	12.30	69,124	12.88
Transportation.....	77,900	11.29	103,188	10.50
Communication.....	5,896	14.14	6,876	13.21
Commercial.....	45,636	12.65	45,136	13.92
Financial.....	572	8.72	572	9.63
Service.....	67,988	14.03	71,516	14.91
Personal.....	32,348	13.62	34,352	14.44
Domestic.....	23,252	13.24	26,152	14.66
Protective.....	10,780	17.03	9,772	17.31
Other.....	1,608	13.45	1,240	14.65
Agricultural.....	3,636	12.41	4,312	14.29
Fishing, trapping and logging.....	46,344	10.73	59,028	12.70
Fishing and trapping.....	676	11.43	772	13.31
Logging.....	45,668	10.72	58,256	12.69
Mining.....	19,716	8.02	18,272	9.93
Manufacturing and mechanical.....	173,672	11.84	178,144	10.44
Electric light and power.....	12,052	11.54	12,324	12.47
Construction.....	99,892	10.20	111,652	11.87
Labourers.....	157,440	11.06	186,136	12.34
Unspecified.....	13,164	11.08	11,752	11.41

Table 32 gives the provincial distribution of persons establishing seasonal benefit periods in 1956 and 1957, average weeks paid and average benefits paid. Prince Edward Island claimants averaged the longest duration of paid seasonal benefit in both years, while Newfoundland claimants averaged the highest paid benefit. The average duration of paid seasonal benefit in 1956 was 7.95 weeks and in 1957, 7.08 weeks; the average benefit in 1956 amounted to \$148.93 and in 1957 to \$141.86.

32.—Persons Establishing Seasonal Benefit Periods, Duration of Benefit and Amount Paid, by Province, 1956 and 1957

Province	1956 ¹			1957 ²		
	Persons Establishing Benefit Periods	Average Weeks Paid	Average Amount Paid	Persons Establishing Benefit Periods	Average Weeks Paid	Average Amount Paid
	No.	No.	\$	No.	No.	\$
Newfoundland.....	12,108	9.04	189.47	11,728	7.78	175.35
Prince Edward Island.....	2,384	9.85	164.82	2,460	7.88	136.74
Nova Scotia.....	12,976	8.45	153.64	10,284	7.65	140.02
New Brunswick.....	17,140	8.41	157.22	15,316	7.71	150.98
Quebec.....	89,288	7.93	150.34	69,828	6.98	140.71
Ontario.....	65,512	7.48	135.93	53,696	6.92	135.13
Manitoba.....	12,944	8.66	156.61	9,644	7.58	149.06
Saskatchewan.....	9,576	9.03	173.89	7,712	7.26	150.53
Alberta.....	11,728	7.48	143.95	8,540	6.31	135.07
British Columbia.....	22,040	7.33	135.89	19,576	6.62	134.79
Totals.....	255,696	7.95	148.93	208,784	7.08	141.86

¹ Jan. 1 to Apr. 21.

² Jan. 1 to Apr. 20.

Employment Service.—The Unemployment Insurance Commission operates a free employment service under authority of the Unemployment Insurance Act, 1940. The public employment offices, which had functioned under a joint federal-provincial arrangement for more than two decades, were taken over by the Commission on Aug. 1, 1941, and additional offices were established in all provinces except Quebec. The Commission established its own offices in Quebec and the Provincial Government thereupon reduced the number of its offices.

33.—Applications for Employment, Positions Offered and Placements Effected by Employment Offices 1948-57, and by Province, 1956 and 1957

NOTE.—Figures by provinces from 1920-55 are given in the corresponding table of previous Year Books beginning with the 1926 edition. Totals for 1920-37 are given in the 1938 edition, p. 766; for 1938 in the 1939 edition, p. 802; and for 1939-47 in the 1951 edition, p. 686.

Year and Province	Applications Registered		Vacancies Notified		Placements Effected	
	Males	Females	Males	Females	Males	Females
	No.	No.	No.	No.	No.	No.
1918.....	1,197,295	459,332	794,207	391,385	497,916	214,424
1949.....	1,295,690	494,956	652,853	373,837	464,363	219,816
1950.....	1,500,763	575,813	800,611	363,711	559,882	230,920
1951.....	1,541,208	623,467	943,773	387,795	655,933	262,305
1952.....	1,781,689	664,485	865,152	444,926	677,777	302,730
1953.....	1,980,918	754,358	822,852	456,310	661,167	332,239
1954.....	2,129,110	840,877	865,029	423,291	545,452	316,136
1955.....	2,161,081	829,741	797,917	435,065	542,726	310,850
1956.....	2,182,904	809,277	986,653	438,967	748,464	298,515
1957.....	2,714,759	938,704	720,798	398,740	586,780	290,924
Newfoundland.....	50,084	3,621	6,724	1,081	4,935	597
1956	65,575	4,271	5,930	893	3,494	557

33.—Applications for Employment, Positions Offered and Placements Effected by Employment Offices 1948-57, and by Province, 1956 and 1957—concluded

Year and Province	Applications Registered		Vacancies Notified		Placements Effected	
	Males	Females	Males	Females	Males	Females
	No.	No.	No.	No.	No.	No.
Prince Edward Island.....1956	10,525	4,773	5,196	2,861	3,751	2,369
1957	13,390	4,319	4,776	2,464	3,434	1,911
Nova Scotia.....1956	80,633	22,615	24,268	11,037	19,941	7,676
1957	94,988	25,156	20,983	9,968	17,939	7,403
New Brunswick.....1956	90,508	21,399	30,872	9,084	23,171	6,082
1957	115,074	26,148	19,005	9,273	17,612	7,062
Quebec.....1956	581,178	188,673	259,362	108,787	183,494	69,289
1957	740,606	221,855	190,919	96,108	148,569	66,766
Ontario.....1956	776,589	312,875	369,491	159,326	292,032	110,154
1957	948,018	372,783	269,687	139,023	226,199	103,540
Manitoba.....1956	102,616	51,171	50,594	25,184	38,970	17,436
1957	126,889	56,417	40,964	24,460	32,982	18,151
Saskatchewan.....1956	70,599	30,652	39,513	17,095	28,684	11,134
1957	86,931	33,652	32,769	17,082	25,569	11,554
Alberta.....1956	137,369	55,812	84,300	40,433	59,798	25,484
1957	166,996	63,209	60,167	39,012	47,439	25,827
British Columbia.....1956	282,803	117,686	116,333	64,079	93,688	48,294
1957	356,292	130,894	75,628	60,457	63,543	48,153

Section 6.—Vocational Training*

The federal Department of Labour, under the authorization of the Vocational Training Co-ordination Act 1942, co-operates with the provinces in promoting and developing vocational training in Canada by sharing with the provincial governments the costs of establishing and operating various types of schools and training programs designed to fit trainees for employment.

The federal-provincial program under which all classes and training projects are operated is known as 'Canadian Vocational Training'. In conducting this program, the Minister of Labour receives advice and co-operation from the Vocational Training Advisory Council which consists of representatives of provincial governments, employers, organized labour and other bodies concerned with vocational training in Canada. Problems regarding apprenticeship, including federal participation therein, are referred to the Apprenticeship Training Advisory Committee which reports to the Minister through the Council.

The established procedure is to have all training programs operated by or under the supervision of the appropriate provincial authority and to reimburse the provinces for provincial government expenditures in connection with such projects. Where classes or training programs are operated for federal government departments, the Armed Forces, or other federal agencies, the provinces are reimbursed for the full costs; otherwise they are reimbursed for one-half of such expenditures subject to the limitation of funds voted for such purpose by Parliament.

There are four federal-provincial agreements governing the nature and extent of the sharable expenditures for different types of training: the Vocational and Technical Training Agreement No. 2, the Apprenticeship Training Agreement, the Vocational Training Agreement, and the Vocational Correspondence Courses Agreement.

* More detailed information is given in the annual report, *Canadian Vocational Training Branch*, published as a supplement to the annual report of the Department of Labour.

Apprenticeship Training.—Apprenticeship agreements covering a ten-year period commencing Apr. 1, 1944, were signed by all provinces except Quebec and Prince Edward Island. Newfoundland signed an agreement in 1950 for the remainder of the 1944-54 period. These agreements have been renewed for a further ten-year period expiring on Mar. 31, 1964. They provide for sharing, on a 50-50 basis, in provincial government expenditures on the training of indentured apprentices who are registered with the provincial Departments of Labour under the provisions of the apprenticeship Act of each province. Training is provided on the job and in specially organized classes which may be conducted on a full-time basis during the day or as part-time day or evening classes. As of Mar. 31, 1958, a total of 17,534 apprentices was registered. Federal Government expenditures for this purpose for the year ended Mar. 31, 1958, were as follows:—

<i>Province</i>	<i>Payment</i>	<i>Province</i>	<i>Payment</i>
	\$		\$
Newfoundland.....	45,535	Saskatchewan.....	120,950
Nova Scotia.....	77,897	Alberta.....	355,052
New Brunswick.....	60,838	British Columbia.....	273,834
Ontario.....	306,175	Northwest Territories.....	363
Manitoba.....	91,004		
		TOTAL.....	1,331,748*

* Does not include sales tax amounting to \$2,144.

Special Vocational Training Projects.—Agreements that provide for sharing with the provinces the costs of various types of training projects, other than those regularly conducted in schools assisted under the provisions of the Vocational and Technical Training Agreement No. 2, have been in operation since 1939. These agreements were consolidated in 1948 and expired in 1954; they have been renewed for a further five-year period, except that the provision for sharing the costs of financial assistance to university students and nurses-in-training is subject to renewal on a year-to-year basis. The conditions governing financial assistance to the various types of projects are set forth in schedules attached to and forming part of each agreement. These schedules cover special training classes for members of the Armed Forces, the costs of which are borne entirely by the Federal Government; training programs on an individual or class basis for veterans of the Armed Forces for which the provinces are reimbursed 100 p.c.; and special training programs for employees of Federal Government departments, the full cost of which is also borne by the federal treasury. In addition the costs of the following types of classes are shared equally by the federal and provincial governments: training for unemployed persons who require such training to fit them for available employment; rehabilitation training for disabled persons; short-term classes for young people in rural communities; and training programs for supervisors in industrial establishments. Total expenditure from the federal treasury under these vocational training agreements for the year ended Mar. 31, 1958, was \$1,029,425.

Correspondence Courses.—Under the provisions of the Vocational Correspondence Courses Agreement, the Federal Government shares equally with the provincial governments in the costs of printing and preparing correspondence courses. These courses, of which there are approximately 100, must be approved by a committee consisting of the provincial officials in charge of correspondence instruction. They are made available to students anywhere in Canada on the same terms as for students in the province where the course has been prepared. The sum of \$125,000 was appropriated in 1950 to provide for such expenditures during a five-year period. Payments are made to the provinces only on completion of approved courses, and the term of the agreements has been extended to Mar. 31, 1959, to take care of incompleeted courses and needed revisions.

Section 7.—Industrial Accidents and Workmen's Compensation

Subsection 1.—Fatal Industrial Accidents

Statistics of fatal industrial accidents have been compiled by the federal Department of Labour since 1903. The data are now obtained from provincial Workmen's Compensation Boards, the Board of Transport Commissioners and other government authorities, departmental correspondents and from press reports.

34.—Fatal Industrial Accidents, 1954-57

Industry	Numbers				Percentages of Total			
	1954	1955	1956	1957 ^a	1954	1955	1956	1957 ^a
Agriculture.....	100	88	106	92	7.7	6.6	7.3	6.8
Logging.....	168	183	197	135	13.0	13.8	13.5	10.0
Fishing and trapping.....	81	32	18	23	2.4	2.4	1.2	1.7
Mining, non-ferrous smelting and quarrying.....	204	179	250	181	15.7	13.5	17.0	13.4
Manufacturing.....	207	219	200	200	16.0	16.5	13.7	14.8
Construction.....	238	243	312	335	18.4	18.3	21.4	24.8
Electricity, gas and water production and supply.....	26	42	30	42	2.0	3.2	2.0	3.1
Transportation, storage and communication.....	193	211	228	203	14.9	15.9	15.6	15.0
Trade.....	53	50	56	59	4.1	3.8	3.8	4.4
Finance.....	3	6	1	2	0.2	0.4	0.1	0.1
Service.....	73	74	64	79	5.6	5.6	4.4	5.9
Totals.....	1,296	1,326	1,462	1,351	100.0	100.0	100.0	100.0

Causes of Industrial Fatalities.—During 1957, of the 1,351 fatal accidents to industrial workers, 381 were the result of the victims being struck by objects; 58 by automobiles or trucks; 51 by falling trees or branches; 43 by objects falling in mines or quarries; 33 by objects falling from stock piles and loads; and 31 by landslides and cave-ins. Collisions, derailments, wrecks, etc., were responsible for 366 industrial fatalities; automobiles and trucks were involved in 163 of these fatalities; tractors and loadmobiles in 69; watercraft in 59; and aircraft in 47. Falls and slips were responsible for 229 industrial deaths, of which 222 were falls to different levels including 75 deaths caused by falls into rivers, lakes, seas or harbours, 35 by falls from buildings, roofs or towers, and 27 by falls from scaffolds and stagings. There were 86 deaths caused by workers being caught in, on, or between parts of machinery or other agencies. Contact with electric current was responsible for 84 industrial fatalities. There were 82 deaths caused by exposure to dust, poisonous gases and poisonous substances. Conflagrations, explosions and exposure to hot substances caused 70 industrial fatalities and 31 were caused by over-exertion, strain, etc.

Subsection 2.—Workmen's Compensation*

In all provinces legislation is in force providing for compensation for injury to a workman by accident arising out of and in the course of employment, or for disablement caused by a specified industrial disease, except where the workman is disabled for fewer than a stated number of days. The Acts of all provinces provide for a compulsory system of collective liability on the part of employers. To ensure payment of compensation each Act provides for an accident fund, administered by the province, to which employers are required to contribute at a rate determined by the Workmen's Compensation Board in accordance with the hazards of the industry. A workman to whom these provisions apply has no right of action against his employer for injury from an accident during employment. In Ontario and Quebec public authorities, railway and shipping companies, and

* More detailed information is given in the Department of Labour publication, *Workmen's Compensation in Canada, A Comparison of Provincial Laws*.

telephone and telegraph companies are individually liable for compensation as determined by the Board and pay a proportion of the expenses of administration. A federal Act provides for compensation for accidents to Federal Government employees according to the conditions laid down by the Act of the province in which the employee is usually employed. Seamen who are not under a provincial Workmen's Compensation Act are entitled to compensation under the Merchant Seamen Compensation Act.

In all provinces, free medical aid is given to workmen during disability. Compensation is payable in all provinces for anthrax and for poisoning from arsenic, lead, mercury and phosphorus and silicosis is compensated under certain conditions. Other diseases compensated vary according to the industries of the provinces.

Scope of the Workmen's Compensation Acts.—The Acts vary in scope but in general they cover construction, mining, manufacturing, lumbering, transportation and communication and the operation of public utilities. Undertakings in which not more than a stated number of workmen are usually employed may be excluded, except in Alberta and British Columbia.

Benefits.—Under each Act, except those of Saskatchewan and Alberta, if a workman is disabled from earning full wages for fewer than a stated number of days, usually called the 'waiting period', he cannot recover compensation for the period of his disability or, in Manitoba and British Columbia, for the first three days of his disability. Where the disability continues beyond the required number of days, compensation is payable from the date of the accident. Medical aid is always paid from the date of the accident. In Saskatchewan and Alberta the waiting period is one day, that is, compensation is not payable when the workman is off work only for the day on which the accident occurs. When he is disabled for a longer time, compensation begins from the day following the accident.

Burial expenses are paid to the amount of \$300 in Ontario, \$250 in Saskatchewan and British Columbia, and of \$200 in Newfoundland, Prince Edward Island, Nova Scotia, New Brunswick, Quebec, Manitoba and Alberta. In all provinces, except Nova Scotia and Prince Edward Island, an additional sum is allowed for transporting the workman's body.

A widow or invalid widower or a foster mother with children under the age limit, receives a monthly payment of \$75 in Ontario, Saskatchewan and British Columbia; \$35 in Manitoba; \$60 in Alberta and Newfoundland; \$55 in Quebec; and \$50 in Prince Edward Island, Nova Scotia and New Brunswick. In addition, a lump sum of \$300 is paid in Ontario; \$250 in Saskatchewan; \$200 in Quebec and Manitoba; \$150 in Alberta; and \$100 in all other provinces.

For each child in the care of a parent or foster mother receiving compensation, a monthly payment of \$35 is made in Saskatchewan; \$30 in Alberta; \$25 in Ontario, Manitoba and British Columbia; \$20 in Nova Scotia, Quebec, Newfoundland and Prince Edward Island; and \$12 in New Brunswick; with a maximum of \$170 to any one family in Prince Edward Island and \$150 in Nova Scotia.

For each orphan child a monthly payment of \$45 is made in Saskatchewan; \$35 in Manitoba and Ontario; \$30 in Nova Scotia, Quebec, British Columbia, Prince Edward Island, Newfoundland and Alberta (in Alberta a further amount, not exceeding \$10 a month, may be given at the discretion of the Board); and \$25 in New Brunswick; with a maximum of \$120 a month to any one family in Prince Edward Island and of \$150 in Nova Scotia.

Invalids excepted, payments to children are not continued beyond the age of 16 years in seven of the provinces but the Board has discretion to pay compensation to the age of 18 years if it is considered desirable to continue a child's education. In Quebec, the age limit is 18 years and in New Brunswick and British Columbia compensation is paid to the age of 18 years if a child is regularly attending school. In Nova Scotia, New Brunswick, Quebec, Ontario, Manitoba, Saskatchewan and British Columbia payments to invalid

children are continued until recovery, but the other provinces make payments only for the length of time the Board considers that the workman would have contributed to their support.

Where the only dependants are persons other than consort or children, all the Acts provide that compensation is to be a reasonable sum proportionate to the pecuniary loss but the total monthly amount to be paid to all such dependants is limited to \$100 in Ontario; \$85 in Alberta; \$75 in British Columbia; and \$60 in Prince Edward Island, Nova Scotia and Manitoba. In British Columbia, if a workman leaves dependent parents as well as a widow or orphans, the maximum payable to a parent or parents is \$75 a month. Compensation to dependants, other than consort or children, is continued only for such time as the Board considers that the workman would have contributed to their support.

Except in Alberta and British Columbia, each Act places a maximum on the total amount of benefits payable to dependants if the workman dies. A maximum is placed on the amounts that may be paid to the widow and children in Prince Edward Island and Nova Scotia; in Prince Edward Island the maximum is \$170 to a widow and children and \$120 to orphan children and in Nova Scotia the maximums are both \$150. The maximum to all dependants is 75 p.c. of the workman's earnings in Newfoundland, New Brunswick, Prince Edward Island, Quebec and Manitoba. In Ontario and Saskatchewan the average earnings are the maximum amount payable.

Irrespective of the workman's earnings, however, compensation may not fall below certain minimum monthly amounts. The minimum payable to a consort and one child in Quebec is \$75 a month or \$95 if there is more than one child; in Manitoba the minimum is \$90 if there is a consort and one child and \$115 if there is more than one child; in Saskatchewan the minimum is \$100 a month to a consort and child and \$115 to a consort and two children plus \$10 a month for each additional child. In Newfoundland, a widow must receive at least \$60 a month with a further payment of \$20 for each child under 16 years of age unless the total exceeds \$130. In Ontario, the minimum payable to a widow is \$75 a month with a further payment of \$25 for each child up to but not exceeding \$150 a month.

Compensation for total disablement in Nova Scotia is a periodical payment for the duration of the disability equal to 70 p.c. of average earnings; in the other provinces the rate is 75 p.c. Except in New Brunswick, the Acts fix minimum sums to be paid for a permanent total disability. The minimum is \$15 a week in Prince Edward Island, Quebec and Manitoba, and \$25 in Saskatchewan, Alberta and British Columbia. In Newfoundland the minimum is \$65 a month, and in Nova Scotia and Ontario \$100 a month. If average earnings are less than the minimum amount allowed, the amount of the earnings is paid in all provinces except Nova Scotia and Saskatchewan. For partial disablement, compensation is either a percentage of the difference in earnings before and after the accident, or the amount is determined by the Board according to the diminution of earning capacity, the percentage rate in either case being the same as in total disablement. In all provinces, if the impairment of earning capacity is 10 p.c. or less (5 p.c. or less in Alberta), a lump sum may be given.

The average earnings on which compensation is based are limited to \$5,000 a year in Ontario and Saskatchewan; \$4,000 in New Brunswick, Quebec, Alberta and British Columbia; \$3,500 in Manitoba; \$3,000 in Newfoundland, Nova Scotia and Prince Edward Island. If the workmen's earnings at the time of an accident are not considered a proper basis for compensation, the Board may use as a basis the average earnings of another person in the same grade of work. Compensation paid workmen under 21 years of age may be raised later if it appears that their earning power would have increased had the injury not occurred.

Table 35 gives the number of industrial accidents reported by each of the provinces and the amount of compensation paid by the Workmen's Compensation Boards in the years 1956 and 1957.

35.—Industrial Accidents Reported and Compensation Paid by Workmen's Compensation Boards, 1956 and 1957

Year and Province	Industrial Accidents Reported					Compensation Paid ²
	Medical Aid Only ¹	Temporary Disability	Permanent Disability	Fatal	Total	
	No.	No.	No.	No.	No.	\$
1956						
Newfoundland.....	5,926	4,831	86	12	10,855	1,338,873
Prince Edward Island.....	786	663	13	7	1,469	211,185
Nova Scotia.....	10,628	7,629	549	84	18,890	3,607,209
New Brunswick.....	7,279	8,983	195	25	16,482	1,875,615
Quebec.....	...	...	...	212	106,004	17,078,869 ³
Ontario.....	164,416	65,313	2,250	312	232,291	36,326,114 ³
Manitoba.....	12,341	5,843	128	30	18,342	2,459,434
Saskatchewan.....	10,813	9,202	130	50	20,195	3,865,996 ⁴
Alberta.....	27,363	21,336	769	126	49,594	7,588,633
British Columbia.....	49,635	28,210	1,191	229	79,265	19,024,131
Totals, 1956	...	...	...	...	553,357	93,376,059
1957⁵						
Newfoundland.....	4,876	3,743	32	7	8,658	1,181,938
Prince Edward Island.....	666	530	4	2	1,202	190,955
Nova Scotia.....	9,483	7,400	93	51	17,027	3,860,320
New Brunswick.....	...	...	...	17	16,014	1,763,355
Quebec.....	...	...	...	291	110,401	20,227,612 ³
Ontario.....	177,154	68,722	2,278	338	248,492	41,278,317 ³
Manitoba.....	12,508	5,650	226	30	18,414	2,710,716
Saskatchewan.....	11,425	10,978	250	63	22,716	4,200,825 ⁴
Alberta.....	25,808	20,236	784	105	46,933	8,078,879
British Columbia.....	48,738	25,620	1,322	191	75,871	19,721,759
Totals, 1957	...	...	...	...	565,728	103,214,676

¹ Accidents requiring medical treatment but not causing disability for a sufficient period to qualify for compensation; the period varies in the several provinces. ² Includes, except where noted otherwise, payments to compensate for lost earnings, medical aid payments, cost of rehabilitation and hospitalization (not including capital expenditures), pensions paid (not pensions awarded) for temporary and permanent disabilities. ³ Excludes payments by employers who make direct compensation to their employees; such employees come under Schedule II of the Ontario and Quebec Workmen's Compensation Acts. ⁴ Excludes hospital costs.

Section 8.—Organized Labour in Canada*

More than 1,450,000 Canadian workers belong to trade unions. The 167 unions and organizations active in the country have, in membership, workers from all geographic areas and from most sections of industry. Although approximately one-third of the paid workers belong to unions, there is no uniform expansion of organization across the country. The central and industrial provinces of Ontario and Quebec account for 58 p.c. of total union membership; the Montreal and Toronto labour market areas combined represent over one-quarter of the total membership in Canada.

The 1958 labour organization survey carried out by the Canadian Department of Labour (18 months after the establishment of the Canadian Labour Congress) indicates that much has been done to consolidate the larger organization which grew out of the amalgamation of the Trades and Labour Congress of Canada and the Canadian Congress of Labour. All duplication of provincial federations and of local labour councils has been removed and there now exists within the Canadian Labour Congress nine provincial federations and 96 local labour councils. The total membership of the Canadian Labour Congress is in excess of 1,144,000.

The other major labour congress in Canada is the Canadian and Catholic Confederation of Labour which is limited largely to the Province of Quebec. Its membership has increased to slightly over 104,000 and there are 13 federations active within its organization.

* A special article on the History of the Labour Movement in Canada prepared by Dr. Eugene Forsey, Director of Research, Canadian Labour Congress, appears in the 1957-58 Year Book, pp. 795-806.

On a long-term basis, there has been a shift in the percentage of trade union members coming from various industries. Manufacturing and transportation have traditionally been the major contributors to union membership in Canada, accounting for 40 p.c. and 20 p.c., respectively, of the total. However, this percentage has been dropping gradually as union membership has increased in other industries, particularly among the service industries which now account for 11 p.c. of the total. An expansion of unions among municipal and provincial employees has been important in bringing this group into greater prominence.

Labour Union Statistics.—Tables 36, 37 and 38 give historical and current figures on union membership in Canada.

36.—Membership of Labour Unions in Canada, 1928-58

Year	Members	Year	Members	Year	Members
	No.		No.		No.
1928.....	300,602	1938.....	381,645	1948.....	977,594
1929.....	319,476	1939.....	358,967	1949.....	1,005,639
1930.....	322,449	1940.....	362,223		
1931.....	310,544	1941.....	461,681	1951 ¹	1,028,521
1932.....	283,096	1942.....		1952.....	1,146,121
			578,380	1953.....	1,219,714
1933.....	285,720	1943.....	664,533	1954.....	1,267,911
1934.....	281,274	1944.....	724,188	1955.....	1,268,207
1935.....	280,648	1945.....	711,117	1956.....	1,351,652
1936.....	322,746	1946.....	831,697	1957.....	1,386,185
1937.....	383,492	1947.....	912,124	1958.....	1,454,000

¹ Figures for 1949 and previous years are as at Dec. 31; figures from 1951 are as at Jan. 1.

37.—Union Membership and Local Branches in Canada as at Jan. 1, 1957 and 1958

Organization	Jan. 1, 1957		Jan. 1, 1958	
	Branches	Members	Branches	Members
	No.	No.	No.	No.
Canadian Labour Congress.....	5,404	1,070,129	5,518	1,144,120
Canadian and Catholic Confederation of Labour.....	411	99,372	449	104,255
American Federation of Labor—Congress of Industrial Organizations.....	17	1,184	59 ¹	18,432 ¹
International Railway Brotherhoods (Independent) ²	257	33,594	124	9,608
Unaffiliated international, national, regional and local unions..	669	181,906	703	177,585
Totals.....	6,758	1,336,185	6,853	1,454,000

¹ The increase is attributable to the International Union of Operating Engineers and the American Federation of Technical Engineers, both of which were expelled from the CLC but still retain their AFL-CIO affiliation.

² The Brotherhood of Locomotive Firemen and Enginemen affiliated with Canadian Labour Congress in 1956. The Brotherhood of Railway Trainmen affiliated with the CLC in 1957.

38.—Labour Unions Reporting 1,000 or more Members in Canada as at Jan. 1, 1958

Organization	Reported or Estimated Membership
International Unions	No.
Asbestos Workers, International Association of Heat and Frost Insulators and (AFL-CIO/CLC)...	1,161
Automobile, Aircraft and Agricultural Implement Workers of America, International Union, United (AFL-CIO/CLC).....	60,000
Bakery and Confectionery Workers' International Union of America (AFL-CIO/CLC).....	8,128
Barbers, Hairdressers, Cosmetologists and Proprietors' International Union of America, The Journeymen (AFL-CIO/CLC).....	2,027
Boilermakers, Iron Ship Builders, Blacksmiths, Forgers and Helpers, International Brotherhood of (AFL-CIO/CLC).....	11,002

**38.—Labour Unions Reporting 1,000 or more Members in Canada as at
Jan. 1, 1958—continued**

Organization	Reported or Estimated Membership
International Unions—continued	No.
Bookbinders, International Brotherhood of (AFL-CIO/CLC).....	2,775
Brewery, Flour, Cereal, Soft Drink and Distillery Workers of America, International Union of United (AFL-CIO/CLC).....	5,200
Bricklayers, Masons and Plasterers' International Union of America (AFL-CIO/CLC).....	7,849
Bridge, Structural and Ornamental Iron Workers, International Association of (AFL-CIO/CLC).....	11,798
Broadcast Employees and Technicians, National Association of (AFL-CIO/CLC).....	1,404
Building Service Employees' International Union (AFL-CIO/CLC).....	7,029
Carpenters and Joiners of America, United Brotherhood of (AFL-CIO/CLC).....	76,051
Cement, Lime and Gypsum Workers International Union, United (AFL-CIO/CLC).....	3,514
Chemical Workers' Union, International (AFL-CIO/CLC).....	13,500
Clothing Workers of America, Amalgamated (AFL-CIO/CLC).....	15,000
Commercial Telegraphers' Union, The (AFL-CIO/CLC).....	5,341
Communications Workers of America (AFL-CIO/CLC).....	3,268
Distillery, Rectifying, Wine and Allied Workers' International Union of America (AFL-CIO/CLC).....	3,300
Electrical, Radio and Machine Workers, International Union of (AFL-CIO/CLC).....	16,000
Electrical, Radio and Machine Workers of America, United, (Ind.).....	24,000
Electrical Workers, International Brotherhood of (AFL-CIO/CLC).....	29,250
Engineers, American Federation of Technical (AFL-CIO).....	1,226
Engineers, International Union of Operating (AFL-CIO).....	15,677
Fire Fighters, International Association of (AFL-CIO/CLC).....	8,995
Firemen and Oilers, International Brotherhood of (AFL-CIO/CLC).....	2,100
Garment Workers of America, United (AFL-CIO/CLC).....	1,949
Garment Workers' Union, International Ladies, (AFL-CIO/CLC).....	14,980
Glass and Ceramic Workers of North America, United (AFL-CIO/CLC).....	4,500
Hatters, Cap and Millinery Workers International Union, United (AFL-CIO/CLC).....	3,500
Hod Carriers', Building and Common Labourers' Union of America, International (AFL-CIO/ CLC).....	21,543
Hotel and Restaurant Employees and Bartenders International Union (AFL-CIO/CLC).....	14,057
Laundry, Dry Cleaning and Dye House Workers International Union (CLC).....	1,948
Leather Goods, Plastics and Novelty Workers Union, International (AFL-CIO/CLC).....	1,050
Lithographers of America, Amalgamated (AFL-CIO/CLC).....	2,474
Locomotive Engineers, Brotherhood of (Ind.).....	8,765
Locomotive Firemen and Enginemen, Brotherhood of (AFL-CIO/CLC).....	9,919
Longshoremen's Association, Independent, International (CLC).....	6,500
Longshoremen's and Warehousemen's Union, International (CLC).....	2,000
Machinists, International Association of (AFL-CIO/CLC).....	52,956
Maintenance of Way Employees, Brotherhood of (AFL-CIO/CLC).....	20,000
Meat Cutters and Butcher Workmen of North America, Amalgamated (AFL-CIO/CLC).....	7,189
Metal Workers' International Association, Sheet (AFL-CIO/CLC).....	6,031
Millers, American Federation of Grain (AFL-CIO/CLC).....	1,050
Mine, Mill and Smelter Workers, International Union of (Ind.).....	34,000
Mine Workers of America, United (Ind.).....	21,860
Molders' and Foundry Workers' Union of North America, International (AFL-CIO/CLC).....	6,526
Musicians of the United States and Canada, American Federation of (AFL-CIO/CLC).....	12,621
Newspaper Guild, American (AFL-CIO/CLC).....	2,506
Office Employees' International Union (AFL-CIO/CLC).....	5,295
Oil, Chemical and Atomic Workers International Union (AFL-CIO/CLC).....	10,634
Packhouse Workers of America, United (AFL-CIO/CLC).....	23,000
Painters, Decorators and Paperhangers of America, Brotherhood of (AFL, CIO/CLC).....	7,961
Papermakers and Paperworkers, United (AFL-CIO/CLC).....	9,241
Photo-Engravers Union of North America, International (AFL-CIO/CLC).....	1,065
Plasterers' and Cement Masons' International Association of the United States and Canada, Ope- rative (AFL-CIO/CLC).....	3,190
Plumbing and Pipe Fitting Industry of the United States and Canada, United Association of Journey- men and Apprentices of the (AFL-CIO/CLC).....	20,212
Printing Pressmen and Assistants' Union of North America, International (AFL-CIO/CLC).....	7,802
Pulp, Sulphite and Paper Mill Workers, International Brotherhood of (AFL-CIO/CLC).....	35,338
Railroad Signalmen of North America, Brotherhood of (AFL-CIO/CLC).....	1,121
Railroad Telegraphers, The Order of (AFL-CIO/CLC).....	10,268
Railroad Trainmen, Brotherhood of (AFL-CIO/CLC).....	24,274
Railway and Motor Coach Employees of America, Amalgamated Association of Street, Electri- c (AFL-CIO/CLC).....	12,550
Railway and Steamship Clerks, Freight Handlers, Express and Station Employees, Brotherhood of (AFL-CIO/CLC).....	18,329
Railway Carmen of America, Brotherhood of (AFL-CIO/CLC).....	24,581
Retail Clerks International Association (AFL-CIO/CLC).....	5,207
Retail, Wholesale and Department Store Union (AFL-CIO/CLC).....	14,389
Rubber, Cork, Linoleum and Plastic Workers of America, United (AFL-CIO/CLC).....	13,000
Seafarers' International Union of North America (AFL-CIO/CLC).....	10,450
Stage Employees and Moving Picture Machine Operators of the United States and Canada, Inter- national Alliance of Theatrical (AFL-CIO/CLC).....	1,546

38.—Labour Unions Reporting 1,000 or more Members in Canada as at Jan. 1, 1958—concluded

Organization	Reported or Estimated Membership
No.	
International Unions—concluded	
Steelworkers of America, United (AFL-CIO/CLC)	80,000
Teamsters, Chauffeurs, Warehousemen and Helpers of America, International Brotherhood of (AFL-CIO/CLC)	36,891
Textile Workers of America, United (CLC)	9,130
Textile Workers Union of America (AFL-CIO/CLC)	17,000
Tobacco Workers' International Union (AFL-CIO/CLC)	5,654
Typographical Union, International (AFL-CIO/CLC)	7,037
Upholsterers' International Union of North America (AFL-CIO/CLC)	2,700
Woodworkers of America, International (AFL-CIO/CLC)	41,847
National Unions	
Authors and Artists, Canadian Council of (CLC)	2,454
Bâtiment du Canada, Fédération des Travailleurs du (Federation of Building Workers of Canada) (CCCL)	20,408
Bois ouvré du Canada, Inc., Fédération Catholique des Travailleurs du (Catholic Federation of Wood Workers of Canada, Inc.) (CCCL)	4,292
Chaussure du Canada, Inc., Fédération Nationale du Cuir et de la (National Federation of Leather and Shoe Workers of Canada, Inc.) (CCCL)	4,361
Civil Service Association of Alberta, The (CLC)	7,364
Civil Service Association, The Saskatchewan (CLC)	5,185
Commerce, Inc., Fédération Nationale Catholique des Employés du (National Catholic Federation of Commerce Employees, Inc.) (CCCL)	3,470
Cultivateurs (Service Forestier), L'Union Catholique des (Catholic Union of Farmers, Forestry Service) (Ind.)	10,270
Fishermen and Allied Workers' Union, United (Ind.)	6,821
Fishermen, Newfoundland Federation of (Ind.)	8,012
Fishermen's Protective Union (Ind.)	1,500
Government Employees' Association, British Columbia (CLC)	12,004
Government Employees' Association, Newfoundland (CLC)	1,200
Imprimerie du Canada, Eng., Fédération des Métiers de l' (Federation of Printing Trades of Canada, Reg.) (CCCL)	4,607
Labourers' Union, Newfoundland (Ind.)	4,000
Letter Carriers, Federated Association of (CLC)	5,205
Longshoremen's Protective Union (St. John's) (Ind.)	2,000
Lumbermen's Association, Newfoundland (Ind.)	3,000
Marine Engineers of Canada, Inc., National Association of (CLC)	1,505
Marine Workers' Federation (CLC)	2,600
Merchant Service Guild, Inc., Canadian (CLC)	2,425
Métallurgie, Fédération Nationale de la (National Metal Trades Federation) (CCCL)	16,307
Minière, Inc., Fédération Nationale des Employés de l'Industrie (National Federation of Mining Industry Employees, Inc.) (CCCL)	4,876
Municipales et Scolaires du Canada, Inc., Fédération Nationale des Employés des Corporations (National Federation of Employees of Municipal and School Corporations of Canada, Inc.) (CCCL)	6,340
National Council of Canadian Labour (Ind.)	6,950
Postal Employees Association, Canadian (CLC)	9,416
Public Employees, National Union of (CLC)	35,214
Public Service Employees, National Union of (CLC)	20,000
Pulpe et du Papier, Inc., Fédération Nationale des Travailleurs de la (National Federation of Pulp and Paper Workers, Inc.) (CCCL)	7,500
Radio and Television Employees of Canada, The Association of (CLC)	1,750
Railway Employees and Other Transport Workers, Canadian Brotherhood of (CLC)	35,708
Seafood Workers Union, Canadian (CLC)	1,710
Services, Inc., Fédération Nationale Catholique des (National Catholic Federation of Services, Inc.) (CCCL)	6,700
Shipyard General Workers' Federation of British Columbia (CLC)	3,125
Steel and Foundry Workers, Montreal (Ind.)	1,175
Telephone Employees' Association, Canadian (Ind.)	17,036
Telephone Workers of British Columbia, Federation of (Ind.)	4,855
Textile Council, Canadian (Ind.)	1,800
Textile, Inc., Fédération Nationale Catholique du (National Catholic Textile Federation, Inc.) (CCCL)	8,041
Traffic Employees' Association (Ind.)	10,191
Unemployment Insurance Commission Association, National (CLC)	6,250
Vêtement, Inc., Fédération Nationale des Travailleurs de l'Industrie du (National Federation of Clothing Industry Workers, Inc.) (CCCL)	6,203

Section 9.—Strikes and Lockouts

Statistical information on strikes and lockouts in Canada is compiled by the Economics and Research Branch of the Department of Labour. Tables 39 and 40 cover strikes and lockouts involving six or more workers and lasting at least one working day; also strikes and lockouts lasting less than one day or involving fewer than six workers but exceeding a total of nine man-days. The developments leading to work stoppages are often too complex to make it practicable to distinguish statistically between strikes on the one hand and lockouts on the other. However a work stoppage that is clearly a lockout is not often encountered.

The number of workers involved includes all workers reported on strike or locked out, whether or not they belonged to the unions directly involved in the disputes that led to work stoppages. Where the number of workers involved varied in the course of a stoppage, the peak figure is used in tabulating annual totals. Workers who were laid off as a result of a stoppage but were not on strike or locked out are not included in the number of workers involved.

Duration of strikes and lockouts in terms of man-days is calculated by multiplying the number of workers involved in each work stoppage by the number of working days the stoppage was in progress. Where the number of workers involved varied during the period of a stoppage, an appropriate adjustment is made in the calculation as far as this is practicable. The duration in man-days of all work stoppages in a year is also shown as a percentage of estimated working time, based on the annual average of all non-agricultural paid workers in Canada.

The data on duration of work stoppages in man-days are provided to facilitate comparison of work stoppages in terms of a common denominator. They are not intended as a measure of the loss of productive time to the economy.

39.—Summary Statistics of Strikes and Lockouts, 1950-57

Year	Strikes and Lockouts Beginning during Year	Strikes and Lockouts in Progress during Year			
		Strikes and Lockouts	Workers Involved	Duration	
				Man-Days	Estimated Working Time
	No.	No.	No.	No.	p.c.
1950.....	158	161	192,153	1,389,039	0.14
1951.....	257	259	102,870	901,739	0.08
1952.....	216	222	120,818	2,879,955	0.29
1953.....	167	174	55,988	1,324,715	0.13
1954.....	156	174	82,250	1,475,200	0.15
1955.....	149	159	60,090	1,875,400	0.18
1956.....	221	229	88,680	1,246,000	0.11
1957.....	242	249	91,409	1,634,881	0.14

40.—Strikes and Lockouts, by Industry, 1957

Industry	Strikes and Lockouts	Workers Involved	Duration in Man-Days
	No.	No.	No.
Logging.....	6	1,423	28,828
Fishing.....	3	10,700	157,050
Mining.....	22	18,084	165,772
Coal.....	18	15,876	40,085
Metal.....	5	2,208	125,687

40.—Strikes and Lockouts, by Industry, 1957—concluded

Industry	Strikes and Lockouts	Workers Involved	Duration in Man-Days
	No.	No.	No.
Manufacturing	115	38,260	990,714
Foods and beverages.....	12	856	11,326
Tobacco and tobacco products.....	2	578	10,452
Rubber products.....	2	732	2,961
Leather products.....	2	96	4,668
Textile products (except clothing).....	12	4,358	25,117
Clothing (textile and fur).....	19	2,953	16,651
Wood products.....	12	1,026	19,901
Paper products.....	5	5,834	189,386
Printing, publishing and allied industries.....	4	77	1,484
Iron and steel products.....	19	6,170	64,042
Transportation equipment.....	6	6,454	22,326
Non-ferrous metal products.....	2	6,347	522,955
Electrical apparatus and supplies.....	4	576	7,610
Non-metallic mineral products.....	4	629	29,552
Products of petroleum and coal.....	1	237	8,771
Chemical products.....	5	1,068	52,443
Miscellaneous manufacturing industries.....	4	269	1,069
Construction	59	17,710	214,705
Transportation, Storage, Communication	10	3,514	36,381
Transportation.....	10	3,514	36,381
Public Utility Operation	2	96	676
Trade	20	950	34,299
Service	11	672	6,456
Community or public service.....	2	18	83
Government service.....	4	375	3,488
Personal service.....	5	279	2,885
Totals	249	91,409	1,634,881

Section 10.—Canada and the International Labour Organization

The Department of Labour is the officially designated liaison agency between the Government of Canada and the International Labour Organization. The ILO was established in 1919, in association with the League of Nations under the Treaties of Peace, with the object of improving labour and social conditions throughout the world by international agreement and legislative action. Under an agreement approved by the General Conference of the International Labour Organization by the United Nations General Assembly in 1946, the Organization became a specialized agency of the United Nations although retaining its autonomy.

The ILO is an association of 79 Member States, financed by their governments, and democratically controlled by representatives of those governments and of their organized employers and workers. It is comprised of three main organs: (1) the International Labour Conference; (2) the International Labour Office, and (3) the Governing Body. Since World War II the ILO has extended its field of activities by the establishment of ten tripartite industrial committees to deal with problems of important world industries, by the holding of regional and special technical conferences, and by the expanded program of technical assistance to aid the development of backward countries in such fields as co-operatives, vocational training, productivity techniques and employment service organization.

The *International Labour Conference* is a world assembly for the consideration of labour and social problems. It meets annually and is attended by four delegates from each Member State (two representing the Government, one representing the employers and one representing the workers) accompanied by technical advisers. The Conference formulates international standards concerning working and living conditions in the form

of Conventions and Recommendations. A Convention, after adoption, must be considered by the competent authorities in each Member State with a view to possible ratification; however each Member State decides whether or not to ratify any Convention, and only by ratification does it assume the obligation to bring its legislation in that field up to the standard set by the Convention. A Recommendation is less formal: it contains general principles for the guidance of governments in drafting legislation or in issuing administrative orders and is not subject to ratification by the Member States.

The *International Labour Office* acts as the permanent secretariat of the ILO and as a world research and information centre and publishing house on all subjects concerned with working and living conditions. In the operational field it assists Member States by furnishing experts on manpower training and technical and other types of assistance. The ILO maintains branch offices in all parts of the world; the Canada Branch is located at 202 Queen Street, Ottawa.

The *Governing Body* of the ILO consists of 40 members—20 government representatives, 10 employers' representatives and 10 workers' representatives. Of the government seats, each of the 10 Member States of chief industrial importance (of which Canada is one) holds a permanent place, and the other 10 government representatives are elected triennially by the Conference. The worker and employer members are elected by their groups every three years at the Conference. The Governing Body meets three times a year and has supervision over the work of the International Labour Office and the various Conferences and Committees, in addition to framing the budget and approving the agendas of the Conferences and meetings. Canada's representative on the Governing Body is G. V. Haythorne, Assistant Deputy Minister of Labour for Canada.

There have been 42 Sessions of the International Labour Conference, at which 111 Conventions and 111 Recommendations have been adopted, covering a wide range of subjects such as industrial relations, freedom of association, hours of work, weekly rest, holidays with pay, minimum wages, night work of women and young persons, industrial health and safety, workmen's compensation, conditions of work for seamen and dockers, unemployment and health insurance, protection of migrant workers, equal remuneration, discrimination, forced labour, and many other aspects of industrial and social problems. By November 1958 the ratifications of Conventions by Member States totalled 1,852.

Canada has ratified 18 ILO Conventions, of which 12 concern maritime and dock labour. In Canada the provincial legislatures are the competent legislative authorities with jurisdiction over the subjects covered by most of the ILO Conventions and Recommendations. The Department of Labour, as the official liaison agency with the International Labour Organization, is responsible for forwarding to the ILO Office annual reports on ratified Conventions as well as periodical reports on many other industrial and social matters. Canada is represented at most of the ILO annual and special meetings, and accounts of the discussions and the decisions are regularly published in the *Labour Gazette*. The Department also keeps the provincial governments and the major employer and worker organizations informed of ILO activities.

CHAPTER XVIII.—TRANSPORTATION

CONSPECTUS

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NOTE.—The interpretation of the symbols used in the tables throughout the Year Book will be found facing p. 1 of this volume.

The physiographic and population characteristics of Canada present unusual difficulties from the standpoint of transportation. The country extends 4,000 miles from east to west and its main topographic barriers run in a north-south direction, so that sections of the country are cut off from one another by such water barriers as Cabot Strait and the Strait of Belle Isle separating the Island of Newfoundland from the mainland; by areas of rough, rocky forest terrain such as the region lying between New Brunswick and Quebec, and the areas north of Lakes Huron and Superior dividing the industrial region of Ontario and Quebec from the agricultural areas of the Prairie Provinces; and by the mountain barriers between the prairies and the Pacific Coast. Unevenly distributed along a narrow southern strip of Canada's vast area is its relatively small population of 17,048,000 (estimate of June 1, 1958). To such a country, with a population so dispersed and producing for export as well as for consumption in distant parts of the country itself, efficient and economical transportation facilities are necessities of existence.

The extent of government control over the agencies of transportation is covered in Part I of this Chapter; Parts II to VI deal with the various types of transport facility.

PART I.—GOVERNMENT CONTROL OVER AGENCIES OF TRANSPORTATION

The Federal Government's control and regulation of transportation reflect to a considerable extent conditions that date back to the period when the railways possessed a virtual monopoly of transportation within the country. Although federal regulation was a direct outcome of such particular matters as the prevention of unjust discrimination in rates and charges resulting from monopoly conditions in the industry and the safety of

transportation facilities and operating practices, yet the railways have been so involved in the public interest that their regulation has been extended to become the most comprehensive of any industry in Canada.

In the meantime, conditions in the transportation industry have been drastically altered by the increasing competition arising from the advance of highway transportation. Unlike the competition that existed between railways in early stages of their development, today's competition shows little indication of starting a trend toward consolidation and a return to semi-monopolistic conditions within the industry. Because so many shippers now provide their own transportation, it is evident that a large part of the present competition between common carriers has become a permanent feature of the transportation industry.

It is not surprising that regulations, which under monopoly conditions were not onerous to the railways or were purely nominal in their effect, are now alleged to have become increasingly restrictive and hampering under highly competitive conditions. Regulatory authorities are therefore faced with the problem of piecemeal revision of their regulations—retaining those where railway monopoly or near-monopoly conditions still make them necessary in the public interest, and relaxing those where competition can be relied on to protect the public in order to enable the railways to meet this competition more effectively. The emphasis has shifted from the regulation of monopoly to maintaining a balance between the several competing modes of transport. Indicative of this trend is the amendment to the Transport Act passed in 1955, which extends the freedom of the railways to make contract rates with shippers known as 'agreed charges'.

On Nov. 2, 1936, the amalgamation of the Department of Railways and Canals and the Department of Marine, together with the Civil Aviation Branch of the Department of National Defence to form the new Department of Transport brought under one control railways, canals, harbours, marine and shipping, civil aviation, radio and meteorology.

Road and highway development is mainly under provincial or municipal control or supervision. According to the judgment of the Judicial Committee of the Privy Council dated Feb. 22, 1954, jurisdiction over interprovincial and international highway transport rests with the Federal Government. Federal and provincial representatives conferred at Ottawa in April 1954 on means of implementing that decision and on June 26, 1954, the Motor Vehicle Transport Act was passed by the Federal Parliament giving to all provinces, at their option, the authority to apply to interprovincial and international highway transport the same regulations respecting certificates of public convenience and necessity and rates as they apply to undertakings operating entirely within the province. This Act has since been proclaimed in seven provinces.

The Board of Transport Commissioners for Canada.—The Board of Transport Commissioners for Canada was created and initially named the Board of Railway Commissioners for Canada by the Railway Act 1903, and was given its present name by the Transport Act 1938. It was organized on Feb. 1, 1904, and succeeded to all the powers and duties of its predecessor, the Railway Committee of the Privy Council. It was also given additional powers and duties which have been greatly enlarged since that date. When organized, the membership of the Board consisted of a Chief Commissioner, Deputy Chief Commissioner and one Commissioner. In 1908 an Assistant Chief Commissioner and two other Commissioners were added. The Board is a statutory court of record, so constituted by the Railway Act and recognized as such by other courts, but it also has extensive regulative and administrative powers.

The great majority of applications and complaints to the Board are disposed of without hearing in open court, but public hearings are held in various places throughout Canada as the Board sees fit, particularly to suit the convenience of the parties and avoid expense to them. Evidence at public hearings is given under oath and interested parties appear personally or by counsel or representatives. The finding or determination of the Board upon any question of fact within its jurisdiction is binding and conclusive and no order or decision may be questioned or reviewed except on appeal to the Supreme Court of

Canada upon a question of law or a question of jurisdiction with leave of a Judge of that Court, or by the Governor in Council.* Two Commissioners are a quorum or 'panel' for the hearing of a case and it is not unusual for two panels to be sitting at the same time on different appeals.

The Board has jurisdiction under more than a score of Acts of Parliament, including jurisdiction under the Railway Act, Transport Act and Pipe Lines Act, over transportation by railway and by inland water; over communication by telephone and telegraph; and over the transmission of oil and natural gas by interprovincial or international pipelines.

Under the Railway Act its jurisdiction is, stated generally, in respect of construction, maintenance and operation of railways that are subject to the legislative authority of the Parliament of Canada, including matters of engineering, location of lines, crossings and crossing protection, safety of train operation, operating rules, investigation of accidents, accommodation for traffic and facilities for service, abandonment of operation, freight and passenger rates, and uniformity of railway accounting. The Board also has certain jurisdiction over telephones and telegraphs, including regulation of the telephone tolls of The Bell Telephone Company of Canada, the British Columbia Telephone Company, the Quebec and Gaspé Telephone Company and the Yellowknife Telephone Company, and over express traffic and tolls for the use of international bridges and tunnels.

The Board has jurisdiction to inquire into, hear and determine any application by any party interested who complains that any company or person has violated or failed to comply with the Railway Act or a Special Act or any Order made thereunder, or who requests the Board to make any order or give any direction, leave, sanction or approval that, by law, it is authorized to make or give or with respect to any matter, act or thing that by the Railway Act or Special Act is prohibited, sanctioned or required to be done. It has power to make orders and regulations generally for carrying the Railway Act into effect and for exercising jurisdiction conferred on the Board by any other Act.

Regulation of railway freight and passenger rates is one of the Board's principal tasks. Except for certain statutory rates, it has power "to fix, determine and enforce just and reasonable rates, and to change and alter rates as changing conditions or cost of transportation may from time to time require"; it may disallow any tariff that it considers to be unjust or unreasonable or contrary to any provision of the Railway Act; it may prescribe other tolls in lieu of the tolls disallowed, or require the railway company to substitute a tariff satisfactory to the Board. Since the end of World War II there has been a succession of applications for authority to make general freight rate increases and general telephone rate increases.

A review of transport regulation was undertaken by the Royal Commission on Transportation, under the chairmanship of the Hon. W. F. A. Turgeon, which held extensive hearings in 1949-50 and issued its Report in 1951. (See 1952-53 Year Book, p. 741.) Certain of its recommendations, including the following, were incorporated into the Railway Act by amendments made in 1951: the equalization of freight rates; the requirement that, when transcontinental competitive freight rates are published, the corresponding rates to intermediate points shall not be more than one-third greater than the former; the payment by the Government of Canada of the cost of maintaining the so-called 'bridge' lines of the transcontinental railway systems in Ontario (between Sudbury, Capreol and Cochrane, and between Port Arthur and Armstrong) up to the amount of \$7,000,000 annually, the amounts so received by the railways to be applied to reductions in freight rates between Eastern and Western Canada over the trackage referred to; and the requirement of a uniform classification of accounts to be prescribed by the Board of Transport Commissioners for the Canadian Pacific Railway and the Canadian National Railways. Pursuant to the amendments, a uniform scale of mileage class rates has been prescribed by the Board and equalization of commodity rates is being proceeded with. The Board has also prescribed a uniform classification and system of accounts for railways and has approved a new freight classification.

* The Board's judgments are reported in *Canadian Railway Cases* and *Canadian Railway and Transport Cases*, and its judgments, orders, rulings and regulations are published fortnightly by the Queen's Printer, Ottawa, in what is known as *J.O.R. & R.*

Under the Transport Act the Board entertains applications for licences for ships to transport goods or passengers for hire or reward between places in Canada on the Great Lakes and the Mackenzie and Yukon Rivers, except goods in bulk on waters other than the Mackenzie River. Before granting a licence the Board must be satisfied that public convenience and necessity require such transport. The Board also has regulative powers over tolls for such transport.

'Agreed charges' between shippers and carriers, authorized by the Transport Act, were also reviewed by the Hon. W. F. A. Turgeon in 1955 and his recommendations were implemented in amendments to that Act in 1955. Under the amendments, an agreement for an agreed charge shall be executed in tariff form and a duplicate original shall be filed with the Board within seven days after the making of the agreement, and the agreed charge takes effect twenty days after the filing, without necessity of the Board's approval of the charge. The Board continues to have power to fix a charge for a shipper who is unjustly discriminated against by an agreed charge and it also has power to vary or cancel an agreed charge referred to it by the Minister of Transport or the Governor in Council for investigation.

Leave of the Board is necessary, under the Pipe Lines Act, for construction of an interprovincial or international gas or oil pipeline. The Board has granted leave to construct such major pipelines as the Trans-Canada natural gas line, the Westcoast Transmission gas line, the Interprovincial oil line, the Trans Mountain oil line and the Trans-Northern oil products line. In considering applications of this kind the Board has regard, among other things, to public interest, financial responsibility of the applicant company and the economic feasibility of the project. It may make orders and regulations for the protection of property and safety in the operation of pipelines. It may also make orders and regulations with respect to all matters relating to traffic, tolls and tariffs of oil pipelines, but it does not have similar powers over gas pipelines. It may declare an oil pipeline company to be a common carrier and may prescribe a uniform system of accounts for pipeline companies.

The Board is required by the Railway Act to make an annual report to the Governor in Council through the Minister of Transport. Copies may be obtained from the Secretary.

The Air Transport Board.—The Air Transport Board was established in September 1944 by amendment to the Aeronautics Act. Subsequent amendments to the Act were made in 1945, 1950 and 1952. The Board has three members including the Chairman, and the staff comprises an Executive Director's Branch including Legal, International Relations, and Traffic Divisions, and a Secretary's Branch including Administrative and Licensing and Inspection Divisions. A Special Projects Division has recently been established.

The Board is responsible for the economic regulation of commercial air services in Canada and is also required to advise the Minister of Transport in the exercise of his duties and powers in all matters relating to civil aviation. The regulatory function relates to Canadian air services within Canada and abroad and to foreign air services operating into Canada. It involves the licensing of all such services and the subsequent regulation of the licensees in respect of their economic operation and the provision of service to the public. As provided by the Act, the Board issues Regulations, approved by the Governor in Council, dealing with the classification of air carriers and commercial air services, applications for licences to operate commercial air services, accounts, records and reports, ownership, transfers, consolidations, mergers and leases of commercial air services, traffic tolls and tariffs, and other related matters. Detailed regulatory instructions are issued by the Board in the form of General Orders, published in the *Canada Gazette*, relating to all air services or groups of air services; Board Orders relating to individual air services; and Rules and Circulars for general guidance and information.

Financial and operating statistics are collected under authority of the Board's Regulations by the Economics Division of the Department of Transport.

The Board is currently devoting special attention to the publication of a revision of the uniform charter tariff and to the formulation of basic principles for the guidance of operators in the establishment of their rates and fares. Helicopter operations are under constant review by an economic and technical committee set up for the purpose.

In the field of international aviation, the Board continues to take an active part in the work of the International Civil Aviation Organization, a member of its staff being the representative of Canada on the Council.

Canadian Maritime Commission.—By authority of an Act of Parliament (R.S.C. 1952, c. 38) passed in 1947, the Canadian Maritime Commission was constituted for the purpose of examining into, keeping records of, and advising the Minister of Transport on matters pertaining to Canadian shipping and shipbuilding services. In addition to these duties, the Act empowers the Commission to:—

- (1) exercise and perform on behalf of the Minister such powers, duties and functions of the Minister under the Canada Shipping Act 1934, as the Minister may require;
- (2) administer, in accordance with regulations of the Governor in Council, any steamship subventions voted by Parliament; and
- (3) exercise or perform any other powers, duties or functions conferred on or required to be performed by the Commission by or pursuant to any other Act or order of the Governor in Council.

PART II.—RAIL AND URBAN TRANSPORT*

Section 1.—Railways

Since Confederation the railways of Canada have been the principal utility for the movement of passengers and freight throughout, and beyond, the nation. The two great national systems, supplemented by a few regional independent railways, are the only carriers able to transport large volumes at low cost in all weather by continuous passage over Canadian transcontinental routes. Though highway and air competition is increasing, the railways still retain their primary position in the transport field.

The two national railway companies control a wide variety of Canadian and international transport and communication services. The government-owned Canadian National Railway System is the country's largest public utility and operates the greatest length of trackage in Canada. In addition, it operates a fleet of coastal and ocean-going steamships, a national telegraph system connecting the principal points of Canada with other parts of the world, an extensive express service in Canada and abroad, a chain of large hotels and resorts, and a scheduled air service connecting all major cities across the country and Canadian with other North American and European points. Its chief competitor, the Canadian Pacific Railway, is a joint-stock corporation operating an extensive transcontinental railway supported by a national telegraph system with connections throughout the world, a large fleet of inland, coastal and ocean-going vessels, a chain of year-round and resort hotels, a domestic north-south airline which is one of the world's great air-freight carriers, a transpacific airline service to the Orient and the Antipodes, air services to Mexico, Peru, Chile and Argentina, a transpolar air route connecting Vancouver and Amsterdam, a transatlantic service to Lisbon, and a limited (one-flight daily each way) transcontinental air service between Vancouver and Montreal. Also included in the company's operations are a world-wide express service and a domestic truck and bus network.

The statistics of Subsections 1 to 3 of this Section cover the combined railway facilities of all companies operating in Canada, including intercity freight and passenger services of electric railway companies. Details relating to the Canadian National Railway System are dealt with separately in Subsection 4. A special article covering the consolidation and organization of the CNR appears in the 1955 Year Book at pp. 840-847.

* Revised in the Public Finance and Transportation Division, Dominion Bureau of Statistics; more detailed information is given in the annual reports of the Division. Certain of the financial statistics were compiled in co-operation with the Department of Transport.

Subsection 1.—Milage and Equipment

Construction was begun in 1835 on the first railway in Canada—the short link of 14.5 miles between Laprairie and St. Johns, Que.—but only 66 miles were in operation by 1850. The first great period of construction was in the 1850's when the Grand Trunk and the Great Western Railways were built as well as numerous smaller lines. The building of the Intercolonial and the Canadian Pacific Railways contributed to another period of rapid expansion in the 1870's and 1880's. In the last period of extensive railway building (1900-1917), the Grand Trunk Pacific, National Transcontinental and Canadian Northern Railways were constructed.

Only a gradual increase has taken place in the milage of single track line since the 1920's. Recently, however, the development of a number of large industrial projects in districts far removed from transport facilities has necessitated the building of branch lines. Those constructed up to 1956 are listed in the 1957-58 Year Book at p. 815. In 1957, three new branches were added to the Canadian National System: in Quebec, a 161-mile line from Beattyville to Chibougamau was placed in operation, linking this mineral-rich area with the industrial centres of the province; in New Brunswick, a 23-mile line was completed between Bartibog and the base-metal development at Heath Steele; in Manitoba, the CNR took over a new 31-mile line from Sipiwesk on the Hudson Bay line to the International Nickel Company development at Thompson. Still in the surveying stage was a branch line from Optic Lake to Chisel Lake in northern Manitoba, a distance of 52 miles. The Pacific Great Eastern Railway in British Columbia, with rail facilities extending 466 miles from Vancouver to Prince George, in 1958 officially opened 262 miles of track between Prince George and Fort St. John and 61 miles between Chetwynd and Dawson Creek (Little Prairie).

While new construction has added considerably to single track milage placed in operation in the past few years, other lines have been abandoned because they have become unprofitable so that new milage is not altogether reflected in the totals shown in Table 1. The British Columbia Electric Railway Company reported rail transport information for the first time in 1957 and contributed 103 miles of first main track milage to the total for that year.

1.—Railway Track Milage Operated, 1900-57

NOTE.—Figures of total milage of single track operated for 1835-1909 are given in the 1941 Year Book, p. 546; for 1911-14 in the 1954 edition, p. 786; for 1916-24 in the 1955 edition, p. 830; and for 1925-49 in the 1956 edition, p. 792.

SINGLE TRACK MILAGE		TRACK MILAGE BY PROVINCE AND TYPE				
Year	Miles in Operation	Province and Type of Track	1954	1955	1956	1957
	No.		No.	No.	No.	No.
1900.....	17,657	Single—				
1905.....	20,487	Newfoundland.....	705	910	934	934
1910.....	24,731	Prince Edward Island.....	285	285	285	285
1915.....	34,882	Nova Scotia.....	1,392	1,401	1,391	1,370
1920.....	38,805	New Brunswick.....	1,834	1,800	1,799	1,818
1925.....	40,350	Quebec.....	4,831	4,936	4,940	5,096
		Ontario.....	10,378	10,375	10,516	10,513
1930.....	42,047	Manitoba.....	4,979	4,979	4,974	5,005
1935.....	42,916	Saskatchewan.....	8,721	8,721	8,721	8,721
1940.....	42,565	Alberta.....	5,651	5,659	5,680	5,680
1945.....	42,352	British Columbia.....	3,959	3,981	4,015	4,071
1950 ¹	42,979	Yukon.....	58	58	58	58
		In United States.....	339	339	339	339
1951.....	42,956	Totals, Single.....	43,132	43,444	43,652	43,890
1952.....	42,953					
1953.....	43,163	Second.....	2,485	2,486	2,476	2,471
1954.....	43,132	Industrial.....	2,181	2,243	2,384	1,208
1955.....	43,444	Yard and sidings.....	10,962	11,142	11,318	11,528
1956.....	43,652	Grand Totals.....	58,760²	59,315²	59,830²	59,097²
1957.....	43,890					

¹ Newfoundland included from 1950.

² Includes 45 miles of joint track.

Rolling-Stock.—The figures in Table 2 may be supplemented by the statement that between 1949 and 1957 the average capacity of box cars increased from 43.5 tons to 46.4 tons and of gondola cars from 61.5 tons to 65.3 tons, flat cars from 42.9 tons to 46.1 tons, hopper cars from 58.7 tons to 65.8 tons and of all freight cars from 45.3 tons to 50.3 tons. The average tractive power of locomotives advanced during the same period from 41,923 lb. to 50,768 lb. The changeover to diesel operation is indicated by the decrease in steam locomotives and the increase in oil-burning and diesel locomotives in operation.

2.—Railway Rolling-Stock in Operation as at Dec. 31, 1949-57

Type	1949	1951	1953	1954	1955	1956	1957
	No.	No.	No.	No.	No.	No.	No.
Locomotives	4,627	4,715	4,818	4,771	4,714¹	4,790	4,821
Steam—							
Coal burning.....	4,351	3,553	3,162	2,871	2,521	2,228	1,857
Oil burning.....		555	607	715	704	621	537
Diesel electric.....	246	574	956	1,152	1,455	1,895 ¹	2,372
Electric.....	30	33	33	33	33	46	55
Passenger Cars	6,224	6,366	6,456	6,648	6,574	6,220²	5,942
Coach.....	2,173	2,169	2,064	2,133	2,058	1,799	1,597
Combination.....	337	339	351	323	325	340	343
Immigrant.....	347	315	291	254	226	178	136
Dining.....	195	196	180	196	201	186	183
Parlour.....	175	153	161	174	172	173	167
Sleeping.....	775	803	801	956	969	925	879
Baggage, express and postal.....	1,766	2,201	2,430	2,413	2,433	2,404	2,398
Motor.....	54	49	59	63	75	90	129
Other.....	402	141	139	131	115	112	110
Freight Cars	177,614	180,725	187,980	189,351	185,956	191,974³	197,907
Automobile.....	6,075	6,396	7,560	7,439	7,406	6,370	6,733
Ballast.....	1,772	1,803	1,940	2,245	2,378	2,156	2,646
Box.....	118,576	121,318	119,753	118,770	114,814	118,353	121,346
Flat.....	10,951	11,062	11,690	11,782	12,037	11,876	11,975
Gondola.....	14,135	14,093	17,603	18,469	18,592	19,052	19,904
Hopper.....	9,100	8,897	11,598	12,129	12,247	12,870	13,788
Ore.....	1,902	1,902	1,969	2,555	2,559	5,465	5,967
Refrigerator.....	7,921	8,231	9,438	9,583	9,735	9,906	10,022
Stock.....	6,648	6,509	6,057	5,972	5,776	5,501	5,141
Tank.....	454	460	328	363	378	389	384
Other.....	80	49	44	44	34	16	1

¹ Includes one gasoline locomotive, not specified as to type.

² Includes 13 cars not specified as to type.

³ Includes 20 cars

Subsection 2.—Finances

The tables in this Subsection give information on capital liability and capital investment, earnings, operating expenses, employees and their earnings and government aid to all railways.* Financial statistics of government-owned railways are given separately and in detail in Subsection 4. A Uniform Classification of Accounts for common carriers became effective for the Canadian National and the Canadian Pacific Railways on Jan. 1, 1956, and for all other railways on Jan. 1, 1957. In transportation statistics a distinction is made between expenditures and expenses. In this Section, the term 'expenses' is used as defined in the Uniform Classification of Accounts and refers to the expenses of furnishing rail transportation service and of operations incident thereto, including maintenance and depreciation of the plant used in such service.

Capital Liability and Investment.—The capital liability of railways operating in Canada for the years 1938 to 1957 is shown in Table 3. The increase of \$145,026,029 in 1957 over 1956 compares with an increase in investment in road and equipment property of \$413,783,016 as shown in Table 4.

* Statistics for individual railways are given in DBS annual report, *Railway Transport*, published in five parts.

3.—Capital Liability of Railways, 1938-57

NOTE.—Figures for 1876 to 1925 are given in the 1927-28 Year Book, p. 649, and those for 1926-37 in the 1947 edition, p. 662.

(Exclusive of Canadian railway capital owned by Canadian railways)

Year	Stocks	Funded Debt	Total	Year	Stocks	Funded Debt	Total
	\$	\$	\$		\$	\$	\$
1938.....	1,836,882,650	1,568,269,672	3,405,152,322	1948.....	1,578,057,474	1,672,282,030	3,250,339,504
1939.....	1,834,329,209	1,533,373,521	3,367,702,730	1949.....	1,576,734,292	1,692,898,968	3,269,633,260 ²
1940.....	1,762,473,489	1,617,561,683	3,380,035,172	1950.....	1,649,462,088	1,826,346,222	3,475,808,310 ²
1941.....	1,697,545,699	1,699,942,865	3,397,488,564	1951.....	1,646,205,772	1,925,488,160	3,571,693,932 ²
1942.....	1,578,254,765	1,793,579,270	3,371,834,035	1952 ¹	2,406,309,060	1,308,899,612	3,715,208,672 ²
1943.....	1,614,936,131	1,741,664,036	3,356,600,167	1953.....	2,422,692,856	1,439,063,402	3,861,756,258 ²
1944.....	1,636,064,822	1,707,801,676	3,343,866,498	1954.....	2,499,778,848	1,475,815,267	3,975,594,115 ²
1945.....	1,631,973,055	1,701,786,899	3,333,759,954	1955.....	2,543,465,586	1,565,109,030	4,108,574,616 ²
1946.....	1,624,753,709	1,665,844,138	3,290,597,847	1956.....	2,572,487,313	1,612,706,551	4,185,193,864 ²
1947.....	1,623,607,219	1,685,010,672	3,308,617,891	1957.....	2,565,559,683	1,764,660,210	4,330,219,893 ²

¹ Affected by readjustment in the capital structure of the CNR (see p. 784).
\$40,000,000 railway debt in Newfoundland assumed in 1949.

² Exclusive of approximately

4.—Capital Invested in Railway Road and Equipment Property, 1953-57

Investment	1953	1954	1955	1956	1957
	\$	\$	\$	\$	\$
Road.....	49,019,361	38,638,197	41,034,168	279,853,243	230,402,782
Equipment.....	156,047,484	192,349,672	77,802,675	148,090,038	189,767,702
General.....	Cr. 87,009	Cr. 9,576,266	Cr. 316,406	7,871,446	Cr. 23,917,074
Undistributed ¹	155,993	162,927	Cr. 12,615,995	12,098,201	17,529,606
CNR non-rail property.....	1,936,807	186,603	Cr. 12,153,325	6,245,838	8,673,670
CPR " ".....	Cr. 1,645,400	Cr. 3,000	Cr. 447,000	5,790,522	9,943,881
Other " ".....	Cr. 134,414	Cr. 19,676	Cr. 15,670	62,441	1,012,155
Total Investment as at Dec. 31...	4,328,569,388	4,550,143,918	4,777,279,050²	5,225,191,978	5,638,974,994

¹ Prior to 1956 and the new Uniform Classification of Accounts, these data included investments in separately operated property, leased lines and non-cash items.
² Includes \$121,230,690 invested in the Quebec North Shore and Labrador Railway which reported for the first time in 1955.

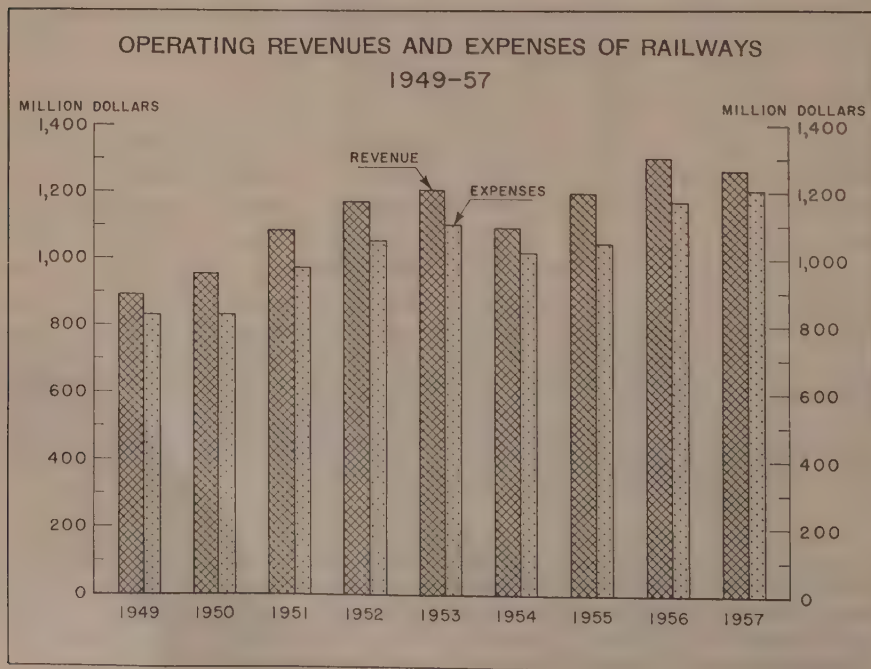
Revenues and Expenses.—During the ten-year period 1948-57, the ratio of expenses to revenues of railways operating in Canada has fluctuated between a low of 86.94 p.c. in 1950 and a high of 95.24 in 1957. The trend for both revenues and expenses has been generally upward during the period, revenues being 44.2 p.c. higher in 1957 than in 1948 and expenses 48.9 p.c. higher. As a result of outlay increasing more rapidly than income, net operating revenue per mile of line in 1957 was at its lowest point since 1938.

5.—Operating Revenues and Expenses of Railways, 1948-57

NOTE.—Operating revenues and expenses from 1875 are given in previous editions of the Year Book beginning with the 1916-17 edition.

Year	Total Operating Revenues	Total Operating Expenses	Ratio of Operating Expenses to Operating Revenues	Per Mile of Line			Freight Train Revenue per Freight Train Mile	Passenger Train Revenue per Passenger Train Mile
				Operating Revenues	Operating Expenses	Net Operating Revenues		
	\$	\$	p.c.	\$	\$	\$	\$	\$
1948.....	875,832,290	808,126,455	92.27	20,702	19,102	1,600	8.38	2.92
1949 ¹	894,397,264	831,456,446	92.96	20,866	19,398	1,468	8.66	3.10
1950.....	958,985,751	833,726,562	86.94	22,311	19,397	2,914	9.45	3.19
1951.....	1,088,583,789	977,577,062	89.80	25,348	22,763	2,585	10.05	3.36
1952.....	1,172,158,665	1,057,186,304	90.19	27,272	24,597	2,675	10.56	3.50
1953.....	1,205,935,414	1,100,393,836	91.25	28,020	25,567	2,453	11.43	3.53
1954.....	1,095,440,918	1,019,534,989	93.07	25,402	23,642	1,760	11.58	3.44
1955.....	1,198,351,601	1,048,564,681	87.50	26,876	23,517	3,359	12.21	3.60
1956.....	1,300,623,923	1,171,338,574	90.06	29,047	26,159	2,887	12.75	3.16
1957.....	1,263,147,930	1,203,530,146	95.24	28,171	26,841	1,330	13.85	3.30

¹ Newfoundland included from Apr. 1, 1949.



6.—Distribution of Operating Expenses of Railways, 1955-57

Item	1955		1956		1957	
	\$	p.c.	\$	p.c.	\$	p.c.
Road maintenance.....	212,397,087	20.3	249,628,976	21.3	265,104,802	22.0
Equipment maintenance.....	227,866,346	21.7	251,328,643	21.4	256,689,993	21.3
Traffic.....	23,821,263	2.3	25,301,141	2.2	27,334,536	2.3
Transportation.....	485,427,650	46.3	494,229,680	42.2	478,428,123	39.8
General and miscellaneous.....	99,052,335	9.4	107,372,028	9.2	109,329,484	9.1
Rents and taxes ¹	—	—	43,478,106	3.7	66,643,208	5.5
Totals.....	1,048,564,681	100.0	1,171,338,574	100.0	1,203,530,146	100.0

¹ Reported as operating expenses in accordance with the Uniform Classification of Accounts adopted in 1956.

Employment and Salaries and Wages.—In the period 1948-57 the number of railway employees increased 11.8 p.c. and their salaries and wages advanced 54.6 p.c. Maintenance-of-equipment employees, on hourly rates, worked 14 p.c. fewer hours and were paid 76 p.c. more wages per hour; average hours worked by transportation employees were 8 p.c. fewer, while their pay per hour was about 65 p.c. higher. These figures reflect salary and wage increases and the effects on employment of the five-day work week inaugurated in 1951. Statistics for 1956 and 1957 have been reported in accordance with the "Canadian Classification of Railway Employees and Their Compensation" which became effective Jan. 1, 1956.

7.—Railway Employees and Their Earnings, 1948-57

NOTE.—Figures include employees and wages for 'outside' operations amounting to from 3 to 6 p.c. of total employees and from 2 to 5 p.c. of total salaries and wages. Figures for 1912-39 are given in the 1941 Year Book, p. 551, and for 1940-47 in the 1951 edition, p. 723.

Year	Employees	Total Salaries and Wages	Average Salaries and Wages	Ratio of Total Payroll (charged to operating expenses) to—	
				Operating Revenues	Operating Expenses
	No.	\$	\$	p.c.	p.c.
1948.....	189,963	512,054,795	2,696	53.0	57.5
1949 ¹	192,366	523,453,375	2,721	52.9	56.9
1950.....	190,385	523,008,515	2,747	49.8	57.2
1951.....	204,025	624,682,754	3,062	52.0	58.0
1952.....	214,143	669,457,962	3,126	52.1	57.7
1953.....	211,951	724,077,594	3,416	53.4	58.6
1954.....	196,307	661,829,774	3,371	54.3	58.3
1955.....	195,459	674,875,767	3,453	50.2	57.4
1956.....	215,324 ²	780,135,918	3,623	50.6	55.9
1957.....	212,426 ²	791,529,117	3,726	51.4	53.9

¹ Newfoundland included from Apr. 1, 1949.
transport (rail) operations.

² Includes employees engaged in cartage and highway

Government Aid to Railways.—In order that the private railways of Canada might be constructed in advance of settlement as colonization roads or through sparsely settled districts where little traffic was available, it was necessary for federal and provincial governments and even for municipalities to extend some form of assistance. The form of aid was usually a bonus of a fixed amount for each mile of railway constructed and, in the early days, grants of land were also made other than for right-of-way. As the country developed, objections to the land-grant method became increasingly apparent and aid was given more frequently in the form of a cash subsidy for each mile of line, a loan or a subscription to the shares of the railway. Guarantees of debenture issues were given in a later period and, since the formation of the Canadian National Railways, all debenture issues of that System, except those for rolling-stock, have been guaranteed by the Federal Government. No new land grants or cash subsidies have been advanced by either the federal or provincial governments since 1939.

During the era of railway expansion before 1918, provincial governments guaranteed the bonds of some railway lines that afterwards were incorporated in the Canadian National Railway System. These bonds as they mature or are called are paid off by the Canadian National Railways, in large measure, through funds raised by the issue of new bonds with Federal Government guarantee. Bonds guaranteed by the Governments of New Brunswick, Ontario, Manitoba, Saskatchewan, Alberta and British Columbia have been eliminated in this manner in recent years. Railway bonds guaranteed by the Government of Canada at Dec. 31, 1957, amounted to \$730,248,955; this amount does not include \$97,756 perpetual debenture stock and guaranteed stock of the former Grand Trunk Railway, now part of the Canadian National Railway System, on which interest and dividends are guaranteed by the Federal Government.

Subsection 3.—Traffic

Table 8 shows passenger and freight statistics for all railways for the years 1948-57. A separate analysis of the operations and traffic of the Canadian National Railways is given at p. 786.

8.—Statistics of Passenger and Freight Services and Revenue Receipts, 1948-57

NOTE.—Figures for 1910-47 are given in the corresponding table of previous Year Books beginning with the 1922-23 edition.

Year	PASSENGER SERVICE				
	Revenue Passenger- Train Miles ¹	Passenger- Train Car Miles ¹	Passengers Carried ²	Passenger Miles	Passenger Miles per Mile of Line
	No.	No.	No.	No.	No.
1948.....	46,101,568	410,689,409	38,279,981	3,477,273,000	82,193
1949.....	45,680,009	407,421,229	34,883,803	3,193,174,337	74,497
1950 ³	43,744,164	392,800,555	31,139,092	2,816,154,232	65,519
1951.....	46,200,947	415,178,734	30,995,604	3,110,240,504	72,424
1952.....	47,663,617	431,234,562	30,167,145	3,151,261,385	73,319
1953.....	46,977,271	430,726,717	28,736,159	2,985,943,809	69,378
1954.....	45,745,089	416,969,275	28,396,528	2,863,036,611	66,391
1955.....	44,556,022	417,729,975	27,229,962	2,891,685,018	64,853
1956.....	43,782,624	420,687,663	26,070,766	2,907,568,012	64,934
1957.....	41,629,954	409,175,053	22,965,974	2,925,132,819	65,236

For footnotes, see end of table.

8.—Statistics of Passenger and Freight Services and Revenue Receipts, 1948-57—concluded

Year	PASSENGER SERVICE—concluded					
	Average Receipts per Passenger Mile	Average Receipts per Passenger	Average Passenger Journey	Average Passengers per Train	Passenger-Train Revenue per Passenger-Train Mile	
	cts.	\$	miles	No.	\$	
1948.....	2.40	2.18	91	75	2.92	
1949.....	2.66 ^a	2.44 ^a	92 ^a	69	3.05	
1950 ^a	2.79	2.52	90	64	3.19	
1951.....	2.86	2.87	100	67	3.36	
1952.....	2.88	3.01	104	66	3.50	
1953.....	2.88	2.99	104	64	3.53	
1954.....	2.87	2.89	101	63	3.44	
1955.....	2.87	3.05	106	65	3.60	
1956.....	2.93	3.27	112	66	3.16	
1957.....	2.97	3.78	127	70	3.30	
FREIGHT SERVICE						
	Revenue Freight-Train Miles	Revenue Freight-Train Car Miles ⁴	Freight Carried ⁵	Freight Ton-Miles	Freight Ton-Miles per Mile of Line	
	No.	No.	tons	ton-miles	ton-miles	
1948.....	83,398,617	3,120,704,440	154,932,804	59,080,323,000	1,396,500	
1949.....	81,648,053	3,091,633,447	142,719,431 ^a	56,338,230,000 ^a	1,314,379 ^a	
1950 ^a	81,397,148	3,093,946,961	144,218,319	55,537,900,000	1,292,120	
1951.....	87,181,640	3,384,341,192	161,260,521	64,300,418,000	1,497,274	
1952.....	89,217,123	3,551,802,171	162,175,381	68,430,417,000	1,592,146	
1953.....	84,997,904	3,448,530,542	156,249,259	65,267,016,000	1,516,462	
1954.....	75,334,248	3,088,504,846	143,194,840	57,547,300,439	1,333,216	
1955.....	79,072,523	3,414,942,330	167,862,156	66,176,128,925	1,483,273	
1956.....	87,088,493	3,890,694,617	189,608,272	78,819,966,395	1,760,135	
1957.....	71,991,848	3,540,096,145	174,163,028	71,047,229,093	1,584,343	
	Freight Receipts per Ton per Mile	Receipts per Ton Hauled	Average Length of Freight Haul	Average Train Load, Revenue Tons	Average Load per Loaded Car Mile	Revenue per Freight-Train Mile
	cts.	\$	miles	tons	tons	\$
1948.....	1.183	4.51	381	708	30.16	8.38
1949.....	1.256 ^a	4.96 ^a	395 ^a	689	29.65	8.62
1950 ^a	1.385	5.33	385	682	28.91	9.45
1951.....	1.362	5.43	399	738	30.61	10.05
1952.....	1.377	5.81	422	767	31.68	10.56
1953.....	1.489	6.22	418	768	31.16	11.43
1954.....	1.516	6.09	402	764	30.34	11.58
1955.....	1.460	5.75	394	837	31.30	12.21
1956.....	1.409	5.85	416	905	33.12	12.75
1957.....	1.520	6.21	408	987	32.86	13.85

¹ Includes express, baggage, mail and other cars.
included for this and subsequent years.

² Duplications included.

³ Newfoundland

⁴ Includes caboose miles but excludes miles made in passenger and non-revenue trains.

⁵ Excludes traffic handled by more than one railway; see Table 9 for details of freight carried.

There was 8.2 p.c. less revenue freight carried on the railways in 1957 than in 1956. Each of the main commodity groups showed a decrease—agricultural products were down by 18.4 p.c., forest products 12.2 p.c., animals and animal products 7.0 p.c., mine products 6.2 p.c., and manufactures and miscellaneous products 3.0 p.c. Only five of the

individual commodities increased—shipments of crushed, ground or broken stone were almost 78 p.c. higher than in 1956 and small gains were recorded in freight shipments of flour, livestock, coke and iron and steel. Of the 174,044,161 tons moved in 1957, mine products accounted for 42.1 p.c., manufactures and miscellaneous products for 30.9 p.c., agricultural products 16.3 p.c., forest products 9.6 p.c., and animals and animal products 1.1 p.c.

9.—Commodities Hauled as Freight on Railways, 1954-57

NOTE.—In this table duplications are eliminated, i.e., the same freight handled by two or more railways is counted only once. The statistics do not include the United States lines of the Canadian National Railways, but the link of the Canadian Pacific Railway line across Maine, U.S.A., is included, as are the Canadian sections of United States railways.

Commodity	1954	1955	1956	1957
	tons	tons	tons	tons
Agricultural Products	28,494,112	27,275,365	34,770,962	28,376,417
Wheat.....	11,501,780	11,421,085	16,325,517	13,160,234
Oats.....	2,477,983	1,544,263	1,811,875	1,709,666
Other grain.....	5,197,858	4,840,613	6,011,812	5,136,833
Flour.....	1,842,171	1,735,338	1,428,791	1,449,408
Other mill products.....	3,026,006*	3,130,393*	4,104,575	2,057,225
Other agricultural products.....	4,448,314*	4,603,673*	5,088,392	4,863,081
Animal Products	1,992,487	2,065,582	2,085,204	1,939,952
Livestock.....	652,161	636,894	652,005	654,985
Meats and other edible packing-house products.....	699,256	724,399	698,508	645,307
Other animal products.....	641,070	704,289	734,691	639,660
Mine Products	51,808,398*	69,996,302*	78,396,685	73,322,895
Coal, anthracite.....	2,737,944	2,722,466	2,976,996	2,129,366
Coal, bituminous, subbituminous, lignite.....	15,438,742	15,367,402	15,875,557	14,657,576
Coke.....	1,541,979	1,869,574	2,059,478	2,107,206
Ores and concentrates.....	13,188,073	25,253,017	30,895,963	29,266,699
Sand and gravel.....	5,123,134	6,913,537	6,375,001	5,863,111
Stone (crushed, ground, broken).....	2,759,503	3,787,020	4,372,832	7,777,451
Other mine products.....	11,019,023*	14,083,286*	15,840,858	11,521,486
Forest Products	16,028,934	17,716,722	18,958,045	16,645,960
Logs, posts, poles, piling.....	1,855,530	2,140,987	2,228,379	2,193,371
Cordwood and other firewood.....	126,082	93,753	73,266	45,736
Pulpwood.....	6,131,899	6,018,071	7,172,754	6,544,706
Lumber, timber, box, crate and cooperage material.....	7,093,440	8,469,824	8,353,301	6,797,042
Other forest products.....	821,983	994,087	1,130,345	1,065,105
Manufactures and Miscellaneous	44,870,909*	50,808,185*	55,397,376	53,758,937
Gasoline and petroleum products.....	7,948,948	8,629,172	9,357,348	8,790,643
Iron and steel (bar, sheet, structural, pipe).....	2,918,011	3,790,921	5,490,354	5,584,331
Automobiles, trucks and parts.....	1,514,478	2,784,925	2,428,709	2,132,072
Newsprint.....	4,082,615	4,245,705	4,578,441	4,573,228
Pulp.....	2,210,580	2,505,193	2,059,767	2,479,597
Other manufactures and miscellaneous.....	23,980,962*	26,624,944*	28,598,454	28,130,181
Merchandise (all L.C.L. freight) ¹	2,215,315	2,227,320	2,254,323	2,068,885
Grand Totals	143,194,840	167,862,156	189,608,272	174,044,161

¹ Less than carload lots.

Railway Accidents.—The figures given in Tables 10 and 11 of persons killed or injured on railways include those involved in both train and non-train accidents. All passengers injured are included in the figures but, for employees, only those that kept the employee from his work for at least three days during the ten days following the accident are recorded.

10.—Passengers, Employees and Others Killed or Injured on Railways, 1948-57

NOTE.—Figures for 1919-47 are given in the corresponding tables of previous Year Books beginning with the 1922-23 edition.

Year	Passengers		Employees		Others ¹		Totals	
	Killed	Injured	Killed	Injured	Killed	Injured	Killed	Injured
	No.	No.	No.	No.	No.	No.	No.	No.
1948.....	15	351	99	9,980	271	825	385	11,156
1949 ²	1	316	71	8,794	257	824	329	9,934
1950.....	18	297	67	8,108	232	744	317	9,149
1951.....	5	221	84	7,651	301	723	390	8,595
1952.....	2	183	74	7,019	317	707	393	7,909
1953.....	4	181	35	5,917	266	727	305	6,825
1954.....	4	251	48	4,654	245	586	297	5,491
1955.....	1	235	48	4,467	258	552	307	5,254
1956.....	7	126	71	4,378	301	649	379	5,153
1957.....	2	193	36	4,082	287	580	325	4,855

¹ Includes postal, express and pullman employees, trespassers and others.
from Apr. 1, 1949.

² Newfoundland included

Accidents tabulated include all those in which railway trains were involved and accidents on railway property. The classification of accidents used for DBS vital statistics treats collisions between motor vehicles and trains as motor vehicle accidents; provincial statistics also class them as motor vehicle accidents and consequently adjustments should be made when compiling total accidental deaths of all kinds or comparing results of accidents of different kinds, such as train and motor vehicle.

11.—Persons Killed or Injured on Railways, by Specified Cause, 1955-57

Class of Person and Description of Accident	1955		1956		1957	
	Killed	Injured	Killed	Injured	Killed	Injured
ACCIDENTS RESULTING FROM MOVEMENT OF TRAINS, LOCOMOTIVES OR CARS						
Class of Person—	No.	No.	No.	No.	No.	No.
Passengers.....	1	188	7	84	2	143
Employees.....	39	1,582	55	1,637	27	1,348
Trespassers.....	71	61	82	56	84	77
Non-trespassers.....	180	413	214	514	197	432
Postal clerks, expressmen, etc.....	1	18	1	20	—	18
Totals.....	292	2,262	359	2,311	310	2,018
Description of Accidents (Employees and Passengers only)—						
Coupling and uncoupling.....	1	88	2	85	—	67
Collisions.....	11	160	22	129	10	99
Derailements.....	5	36	4	52	2	110
Locomotives or cars breaking down.....	1	4	—	—	—	6
Falling from trains or cars.....	3	107	3	117	4	341
Getting on or off trains.....	1	361	5	389	2	24
Struck by trains, etc.....	12	21	13	34	4	28
Overhead and other obstruction.....	—	22	1	25	2	740
Other causes.....	6	971	12	890	5	
Totals.....	40	1,770	62	1,721	29	1,491
ALL OTHER ACCIDENTS						
Class of Person—	No.	No.	No.	No.	No.	No.
Stationmen.....	—	380	1	362	—	272
Shopmen.....	—	1,047	2	1,117	2	1,016
Trackmen.....	5	940	12	807	5	919
Other employees.....	4	518	1	455	2	527
Passengers.....	—	47	—	42	—	50
Others.....	6	60	4	59	6	53
Totals.....	15	2,992	20	2,842	15	2,837

Subsection 4.—The Canadian National Railway System*

In view of the interest in Canada's publicly owned railway, the Canadian National Railway System is given separate treatment in this Subsection. Its history is presented in a special article published in the 1955 Year Book at pp. 840-847. More detailed information than can be given here is obtainable from DBS annual report, *Canadian National Railways*.

Financial Statistics.—The original financial structure of the CNR and the steps taken through the Capital Revision Acts of 1937 and 1952 to alleviate the burden of interest debt undertaken by the company on its formation in 1923 are described in the special article mentioned above. Briefly, the Capital Revision Act of 1937 wrote off all loans that had been made to cover deficits and also unpaid interest on loans, and certain loans made for the purpose of additions and betterments were converted to equity capital, relieving the CNR from paying fixed charges on this amount. Under the 1952 Capital Revision Act, 50 p.c. of the company's interest-bearing debt was changed to preferred stock on which, after settling income taxes, a dividend of 4 p.c. is paid on earnings. Also for a term of ten years ending Dec. 31, 1961, the Railway is not obliged to pay interest on \$100,000,000 of its long-term debt. The Government is authorized to buy additional preferred stock annually in amounts related to the company's gross revenues. As a consequence, the proportion of total capitalization represented by equity capital in shareholders' account was raised from 34.5 p.c. at Dec. 31, 1951, to 67.2 p.c. at Jan. 1, 1952, and the proportion of borrowed capital was correspondingly reduced.

12.—Capital Structure of the Canadian National Railway System as at Dec. 31, 1948-57

NOTE.—Information is given in greater detail in DBS report, *Canadian National Railways*.

At Dec. 31—	Shareholders' Capital		Funded Debt Held by Public		Government Loans and Appropriations—Active Assets in Public Accounts	Totals
	Government of Canada Shareholders' Account	Capital Stock Held by Public	Guaranteed by Federal and Provincial Governments	Other		
	\$	\$	\$	\$	\$	\$
1948.....	774,242,649	4,567,540	492,437,507	91,795,151	760,494,825	2,123,537,672
1949.....	774,448,716	4,560,290	539,706,744	85,159,176	743,661,162	2,147,536,088
1950.....	776,395,649	4,520,890	566,418,607	92,611,634	739,847,514	2,179,794,294
1951.....	776,395,649	4,518,890	518,396,607	96,800,428	857,573,774	2,253,685,348
1952.....	1,531,072,324	4,516,490	518,396,607	87,098,222	228,055,165	2,369,138,808
1953.....	1,552,050,067	4,514,490	513,977,391	75,834,299	342,140,048	2,488,516,295
1954.....	1,571,393,181	4,514,490	910,422,885	62,546,711	126,771,981	2,675,649,248
1955.....	1,591,902,624	4,511,150	861,870,899	34,493,192	199,444,622	2,692,222,487
1956.....	1,616,270,966	4,508,670	794,482,906	25,086,606	353,664,828	2,794,013,976
1957.....	1,639,451,306	4,505,870	730,346,711	17,978,788	623,967,851	3,016,250,526

In Table 13, the assets of the Canadian National Railway System as at Dec. 31, 1957, are compared with those at the time of consolidation of the System.

* The Hudson Bay Railway is a direct responsibility of the Federal Government and has been operated by the CNR for the Government since Apr. 1, 1935; statistics relating to the operation of this line are not included in the data for the CNR.

13.—Assets of the Canadian National Railway System as at Dec. 31, 1922 and 1957

Account	Dec. 31, 1922	Dec. 31, 1957	Increase or Decrease
	\$	\$	\$
Investments	1,842,428,131	3,416,912,180	1,574,484,049
Road and equipment.....	1,765,323,644	3,222,450,352	1,457,126,708
Improvements on leased railway property.....	1,492,123	Cr. 2,424,883 ¹	-3,917,006
Sinking funds.....	4,629,855	—	-4,629,855
Deposits in lieu of mortgaged property sold.....	6,171,808	11,834	-6,159,974
Miscellaneous physical property.....	34,767,914	91,241,504	56,473,590
Affiliated companies.....	24,253,323	100,838,087	76,584,764
Other investments.....	5,789,464	4,795,286	-994,178
Current Assets	87,580,218	216,461,905	128,881,687
Cash.....	14,651,422	28,726,242 ²	14,074,820
Special deposits.....	6,139,435	31,414	-6,108,021
Loans and bills receivable.....	11,600	—	-11,600
Traffic and car service, balances receivable.....	2,528,622	5,523,994	2,995,372
Net balances receivable from agents and conductors.....	5,386,673	30,898,003	25,511,330
Miscellaneous accounts receivable.....	16,857,420	40,249,063 ³	23,391,643
Materials and supplies.....	41,408,999	100,997,322	59,588,323
Interest and dividends receivable.....	377,003	972,902	595,899
Rents receivable.....	112,269	—	-112,269
Other current assets.....	106,775	9,062,965	8,956,190
Deferred Assets	12,325,297	23,354,097	11,028,800
Working fund advances.....	166,847	837,470	670,623
Insurance and other funds.....	352,488	15,000,000	14,647,512
Pension contract fund.....	—	—	—
Other deferred assets.....	11,805,962	7,516,627	-4,289,335
Unadjusted Debits	15,697,557	20,005,207	4,307,650
Rents and insurance premiums paid in advance.....	322,059	3,030,286	2,708,227
Discount on capital stock.....	634,960	—	-634,960
Discount on funded debt.....	1,919,635	4,875,911	2,956,276
Other unadjusted debits.....	12,820,903	12,099,010	-721,893
Grand Totals	1,958,031,203	3,676,733,389	1,718,702,186

¹ Includes acquisition adjustment—U.S. lines (\$3,776,424).² Includes temporary cash investments.³ Includes balance receivable from Government of Canada on deficit account.

The financial details presented in Table 14 are those of the entire Canadian National System, including both Canadian and United States operations. Revenues and expenses include those of express and commercial communications throughout, and highway transport (rail) operations from 1956. In conformity with the requirements of the Uniform Classification of Accounts, tax accruals and rents have been charged to operating expenses since Jan. 1, 1956.

14.—Total Revenue, Operating Expenses, Net Revenue, Fixed Charges and Deficits of the Canadian National Railway System¹, 1948-57

NOTE.—Figures for 1911-25 are given in the 1936 Year Book, p. 660; for 1926-39 in the 1942 Year Book, p. 590; and for 1940-47 in the 1951 edition, p. 731.

Year	Total Operating Revenue	Total Operating Expenses	Income Available for Fixed Charges	Total Fixed Charges	Net Income or Deficit ²	Cash Deficit or Surplus ³
	\$	\$	\$	\$	\$	\$
1948.....	491,269,950	464,739,970	12,502,931	46,341,727	Dr. 33,838,796	Dr. 33,532,741
1949 ⁴	500,723,386	478,501,660	6,152,649	48,631,896	" 42,479,247	" 42,043,027
1950.....	553,831,581	493,997,079	44,084,904	47,421,983	" 3,337,079	" 3,261,235
1951.....	624,834,120	580,150,221	31,722,489	48,176,558	" 16,454,069	" 15,031,996
1952.....	675,219,415	634,852,915	25,702,660	25,415,189	Cr. 287,471	Cr. 142,327
1953.....	696,622,451	659,049,086	29,238,623	29,376,160	Dr. 137,537	" 244,017
1954.....	640,637,280	626,465,374	7,574,821	32,527,264	" 24,952,443	Dr. 28,758,098
1955.....	683,088,794	629,013,125	43,478,955	33,004,300	Cr. 10,474,655	Cr. 10,717,689
1956.....	774,800,647	728,008,837	57,623,710	31,782,991	" 25,840,719	" 26,076,951
1957.....	753,165,964	755,214,378	6,913,660	36,971,680	Dr. 30,058,020	Dr. 29,572,541

¹ Includes the Central Vermont Railway, Incorporated.² Includes appropriations for insurance fund.³ Contributed by or paid to the Federal Government.⁴ Newfoundland included from Apr. 1, 1949.

Milage and Traffic.—At Dec. 31, 1957, first main track milage of the Canadian National Railways (including electric lines and lines in the United States but excluding lines of the Northern Alberta Railways and Toronto Terminals Railway controlled jointly by the Canadian National and the Canadian Pacific Railways) was 24,497 miles.

15.—Train Traffic Statistics of the Canadian National Railways (Canadian and United States Lines), 1955-57

Milage and Traffic	1955	1956 ¹	1957 ¹
Train Milage.....miles	68,725,003	74,590,251	68,133,477
Passenger service....."	23,559,606	24,268,051	23,820,127
Freight service....."	43,128,824	47,944,638	42,073,087
Work service....."	2,036,573	2,377,562	2,240,263
Passenger-Train Car Milage.....miles	224,083,492	231,782,455	235,129,921
Coaches and combination....."	58,262,739 ²	60,183,840 ²	58,647,757 ²
Motor unit cars....."	1,264,116	1,916,297	2,293,943
Parlour, sleeping and dining cars....."	66,111,326	66,745,097	68,480,708
Baggage, mail, express, etc....."	98,445,311	102,937,221	105,707,513
Freight-Train Car Milage.....miles	1,935,098,616	2,178,095,356	1,956,953,773
Loaded freight....."	1,268,426,467	1,418,589,141	1,268,986,013
Empty freight....."	623,331,197	711,236,051	645,428,815
Caboose....."	43,340,952	48,270,164	42,538,945
Work-Train Car Milage.....miles	4,058,029	4,810,716	4,977,773
Passenger Traffic—			
Passengers carried (earning revenue).....No.	16,811,280	15,989,368	13,920,236
Passengers carried (earning revenue) one mile....."	1,468,653,329	1,500,929,719	1,498,655,566
Passenger-miles per mile of road....."	60,404 ^r	61,842	61,719
Average passenger journey.....miles	87.06	93.87	107.66
Average amount received per passenger.....\$	2.61	2.87	3.36
Average amount received per passenger mile.....\$	0.03001	0.03054	0.03124
Average passengers per train mile.....No.	62.13	61.85	62.92
Total passenger-train earnings per train mile.....\$	4.11	4.45	4.64
Total passenger-train revenue per mile of road.....\$	3,994.15	4,454.32	4,553.60
Freight Traffic—			
Revenue freight carried.....tons	87,606,859	99,033,731	88,880,881
Revenue freight carried one mile....."	35,677,183,245	41,935,388,811	36,673,910,825
Revenue freight carried one mile per mile of road....."	1,466,853	1,721,343	1,504,385
Total (all classes) freight carried one mile per mile of road....."	1,544,752	1,823,510	1,587,684
Average tons revenue freight per train mile.....No.	827	875	872
Average tons (all classes) freight per loaded car mile....."	29.53	31.22	30.42
Average hauls revenue freight.....miles	407.24	423.45	412.62
Freight revenue per train mile.....\$	12.50	12.78	13.96
Freight revenue per mile of road.....\$	22,974.37 ^r	26,034.85	24,912.72
Freight revenue per ton.....\$	6.15	6.19	6.61
Freight revenue per ton mile.....\$	0.01511	0.01461	0.01601

¹ Includes electric lines.

² Excludes work service.

Section 2.—Express Companies

Express, which is actually expedited freight carried on passenger trains, is one of the services provided by companies which do not own the means of conveyance but use the facilities of railway companies under contract. The majority of such contracts provide for payment to the railways of a fixed percentage of the gross express revenue.

Express companies are organized under authority of federal legislation and their business concerns the rapid transit of valuable or perishable commodities and animals, the delivery of parcels and the issuing of financial papers, money orders, travellers cheques and letters of credit. Express rates are usually much higher than freight rates and the two services are not normally competitive. Both tariffs are subject to the approval of the Board of Transport Commissioners.

Five express organizations operate in Canada—four Canadian and one American. The Canadian Pacific Express Company is a subsidiary of the Canadian Pacific Railway Company and handles the express business on the railways and the inland and ocean steamship lines of the parent company. The express business of the Algoma Central and Hudson Bay Railway, the Canadian National Railway System, and the Northern Alberta Railways is handled by departments of the respective railways. The Railway Express Agency, Incorporated, of the United States, operates over the Canadian sections of United States railways and over the route from Skagway in Alaska to points in Yukon Territory. Operations of the Algoma Central and Hudson Bay Railway express department were reported for the first time in 1957. No statistics are available on the volume of express traffic because much of it consists of parcels and small lots that cannot be classified.

16.—Summary Statistics of Express Companies, 1948-57

NOTE.—Figures for 1911-47 are given in the corresponding table of previous Year Books beginning with the 1927-28 edition.

Year or Company	Milages Operated ¹	Gross Earnings	Operating Expenses ²	Express Privileges ³	Net Operating Revenue
	No.	\$	\$	\$	\$
1948.....	51,840	46,809,112	30,398,053	18,785,988	Dr. 2,374,929
1949.....	54,806	51,966,290	32,385,223	21,226,817	" 1,645,750
1950.....	55,581	52,017,492	32,881,689	21,355,956	" 2,220,153
1951.....	57,355	60,423,503	38,374,128	21,087,164	1,012,211
1952.....	57,335	70,185,114	44,744,018	24,428,739	1,012,357
1953.....	55,805	74,296,948	49,569,842	23,584,806	1,142,300
1954.....	68,373	70,039,054	48,167,243	20,753,503	1,118,308
1955.....	65,916 ⁴	73,434,962	48,726,272	23,533,770	1,174,920
1956.....	67,984	88,012,718	60,180,066	27,114,672	717,980
1957.....	417,211 ⁴	85,630,963	61,385,390	23,870,836	374,737
1957					
Algoma Central and Hudson Bay Rly.	322	103,677	67,950	21,600	14,127
Canadian National Express.....	42,988	42,607,484	30,222,544	11,939,411	445,529
Canadian Pacific Express.....	21,682	36,879,721	26,595,494	10,369,146	Dr. 84,919
Northern Alberta Railways.....	928	669,343	359,476	309,867	—
Railway Express Agency, Inc. (U.S.A.).	351,291	5,370,738	4,139,926	1,230,812	—

¹ Over railways, boat lines, motor carrier and aircraft routes.
 with the Uniform Classification of Accounts adopted Jan. 1, 1956.

² Includes tax accruals from 1956 in accordance with the Uniform Classification of Accounts adopted Jan. 1, 1956.
³ Amounts paid by express companies to the carriers, i.e., railways, steamship lines, etc., for transporting express matter.

⁴ Includes 341,369 land, sea and air miles in the U.S.A., 341,071 of which are operated by the Railway Express Agency, Inc.

17.—Business Transacted by Express Companies in Financial Paper, 1953-57

Item	1953	1954	1955	1956	1957
	\$	\$	\$	\$	\$
Money orders, domestic and foreign....	134,996,758	130,807,463	133,479,411	137,713,945	134,742,142
Travellers cheques, domestic and foreign.....	7,589,928	7,788,302	8,110,137	8,450,960	9,047,823
C.O.D. cheques.....	22,144,909	20,966,806	20,656,753	19,985,044	18,417,906
Telegraphic transfers.....	274,705	214,475	167,577	140,283	488,156
Totals.....	165,006,390	159,777,046	162,413,878	166,290,232	162,696,027

18.—Employees, Salaries, Wages and Commissions of Express Companies, 1948-57

Year	Full-Time Employees	Salaries and Wages ¹	Com-missions Paid	Year	Full-Time Employees	Salaries and Wages ¹	Com-missions Paid
	No.	\$	\$		No.	\$	\$
1948.....	8,525	22,212,249	2,157,489	1953.....	12,119	37,413,060	2,795,766
1949.....	8,809	23,621,322	2,283,425	1954.....	11,450 ²	35,882,288	2,691,440
1950.....	8,974	24,195,490	2,177,933	1955.....	11,593 ²	36,200,739	2,745,259
1951.....	9,610	28,607,463	2,443,341	1956.....	12,448 ²	40,981,769	3,044,285
1952.....	10,849	32,503,058	2,689,830	1957.....	12,133	42,172,398	2,930,514

¹ Includes wages paid to part-time employees.² Includes part-time employees.

Section 3.—Urban Transit Systems

The collection of statistical information on urban transportation systems has been extensively reorganized. Because of the drastic changes made in recent years in types of vehicles used for mass passenger movement in urban centres, the statistical series that began with the financial and operating statistics of electric railways and later included their motor bus and trolley coach lines, became quite inadequate.

Statistics of urban transit operations were previously contained in part in each of three statistical series: the monthly *Transit Report*, and the annual *Electric Railways and Motor Carriers*, *Freight-Passenger* reports. By 1954 it had become apparent that these reports dealt with four distinct and separate industries—the passenger bus industry, the urban transit industry, the intercity electric railway industry, and the motor carrier-freight industry—and that revision was necessary. As a first step, companies reporting 1954 statistics for the monthly transit report were divided into two groups on the basis of predominant type of operation, i.e., either urban transit or passenger bus (intercity and rural). Companies receiving more than 50 p.c. of their revenue from urban transit operations were defined as “Urban Transit” and those receiving more than 50 p.c. from intercity and rural passenger bus traffic were classified as “Passenger Bus (intercity and rural)”. Starting January 1955, separate monthly reports were produced for the urban transit and the passenger bus industries.

During 1955, a similar examination was made of companies reporting statistics for the annual reports *Electric Railways and Motor Carriers*, *Freight-Passenger*. The former presented data for companies which operated or had at one time operated electric rail lines including urban streetcars, most of which had become strictly urban transit carriers using trolley coaches and motor buses. A new classification of these companies was made, also based on the predominant characteristic of their operations, i.e., either urban transit or electric railway (intercity and rural). Data for the latter group, which numbered five in 1957, is now included in the *Railway Transit* series of reports; data for the companies whose operations are predominantly urban are included in the monthly and annual series on Urban Transit statistics; and the *Electric Railways* report was discontinued with the 1955 publication.

The companies reporting to the *Motor Carriers*, *Freight-Passenger* series formerly included those engaged in passenger bus operations, both urban and intercity and rural, as well as freight carriers. The operations of those companies are now being reported in the *Passenger Bus (intercity and rural)* series, the *Urban Transit* series, or the *Motor Carriers*, *Freight-Passenger* series, depending on the predominant characteristic of their operations. Thus, the annual *Urban Transit* report for 1956 contains, for the first time on a separate basis, statistics for the industry as a whole, including operations of electric railways, subways, motor buses, and trolley coaches carrying passengers in urban and suburban service.

19.—Summary Statistics of Urban Transit Systems, 1955-57

Item		1955 ¹	1956	1957
Passengers Carried	No.	1,178,952,495	1,151,928,811	1,125,608,597
Electric car	"	371,730,501	307,415,194	256,189,707
Trolley coach	"	244,093,650	242,795,718	235,768,206
Subway car	"	35,147,070	36,224,003	36,579,014
Motor bus	"	524,253,303	557,154,740	589,062,762
Chartered	"	3,727,971	8,339,156	8,008,908
Vehicle-Miles Run	No.	198,885,300	203,888,474	204,031,286
Electric car	"	50,053,398	42,347,516	36,371,275
Trolley coach	"	37,975,614	37,811,429	37,453,599
Subway car	"	5,597,500	6,152,164	6,984,792
Motor bus	"	103,389,010	115,055,001	120,789,481
Chartered	"	1,869,778	2,522,364	2,432,139
Fuel Consumed—				
Gasoline	gal.	17,699,183	15,420,219	14,024,296
Propane gas	"	352,229	337,383	298,114
Diesel oil	"	6,435,627	8,670,913	10,980,414
Gross Passenger Revenue	\$	126,043,198	129,213,139	133,039,579
Passenger Vehicles In Service	No.	6,705	6,928	7,156
Electric car	"	1,743	1,493	1,287
Trolley coach	"	1,143	1,199	1,221
Subway car	"	106	134	134
Motor bus	"	3,713	4,102	4,514

¹ Includes urban passenger operations formerly reported in the urban section of the *Motor Carriers, Freight-Passenger* report, together with data reported in the *Electric Railways* report. (See text above.)

20.—Financial Statistics of Urban Transit Systems, 1956 and 1957

Item		1956	1957
		\$	\$
Total assets	\$	412,670,989	438,141,862
Long-term debt	\$	126,586,525	128,777,586
Capital stock and surplus	\$	131,952,853	141,195,724
Operating revenues	\$	129,213,139	133,039,879
Operating expenses	\$	124,532,196	127,561,604
Ratio of expenses to revenues	p.c.	96.38	95.88
Employees	No.	19,758	19,591
Salaries and wages	\$	74,511,149	76,505,968

21.—Passengers, Employees and Others Killed or Injured on Urban Transit Systems, by Cause of Accident and Equipment Involved, 1956 and 1957

Year and Item	Passengers		Employees		Others		Total	
	Killed	Injured	Killed	Injured	Killed	Injured	Killed	Injured
	No.	No.	No.	No.	No.	No.	No.	No.
1956								
Cause of Accident—								
Collision	2	341	1	45	34	822	37	1,208
Boarding (excluding door accidents)	—	388	—	9	—	—	—	397
Alighting (excluding door accidents)	—	792	—	29	—	1	—	822
Caught or struck by doors	—	479	—	—	—	—	—	479
Accidents on board	—	1,832	—	33	—	—	—	1,865
Other	—	36	—	326	—	72	—	434
Totals, 1956	2	3,868	1	442	34	895	37	5,205

**21.—Passengers, Employees and Others Killed or Injured on Urban Transit Systems,
by Cause of Accident and Equipment Involved, 1956 and 1957—concluded**

Year and Item	Passengers		Employees		Others		Total	
	Killed	Injured	Killed	Injured	Killed	Injured	Killed	Injured
	No.	No.	No.	No.	No.	No.	No.	No.
1956—concluded								
Class of Equipment Involved—								
Electric car.....	2	1,123	—	50	13	381	15	1,554
Trolley coach.....	—	608	1	43	4	124	5	775
Motor bus.....	—	2,118	—	86	16	346	16	2,550
Other company equipment.....	—	3	—	18	1	7	1	28
No vehicle.....	—	16	—	245	—	37	—	298
1957								
Cause of Accident—								
Collision.....	2	318	1	42	33	841	36	1,201
Boarding (excluding door acci- dents).....	—	343	—	10	—	6	—	359
Alighting (excluding door acci- dents).....	1	809	—	36	—	4	1	849
Caught or struck by doors.....	—	452	—	1	—	—	—	453
Accidents on board.....	—	1,949	—	59	—	—	—	2,008
Other.....	—	30	1	306	—	51	1	387
Totals.....	3	3,901	2	454	33	902	38	5,257
Class of Equipment Involved—								
Electric car.....	—	886	—	48	11	359	11	1,293
Trolley coach.....	—	709	—	42	3	91	3	842
Motor bus.....	3	2,303	—	84	18	414	21	2,801
Other company equipment.....	—	—	—	16	1	11	1	27
No vehicle.....	—	3	2	264	—	27	2	294

PART III.—ROAD TRANSPORT*

◆ Highways and motor vehicles are herein treated as related features of transportation. An introductory section summarizes provincial regulations regarding motor vehicles and motor traffic.

Section 1.—Provincial Motor Vehicle and Traffic Regulations†

NOTE.—It is obviously impossible to include here the great mass of detailed regulations in force in each province and territory; only the more important general information is given. The source of information for detailed regulations for each province and territory is given at p. 792.

The registration of motor vehicles and the regulation of motor vehicle traffic lies within the legislative jurisdiction of the provincial and territorial governments. Regulations common to all provinces and territories are summarized under the following headings.

Operators' Licences.—The operator of a motor vehicle must be over a specified age, usually 16 years (17 in Newfoundland and Quebec, and 18 in Alberta), and must carry a licence, obtainable in most provinces only after prescribed qualification tests and renewable annually, except in Alberta and British Columbia where it is renewable every five years, and in Manitoba where it is renewable every two years. Special licences are required for chauffeurs in all provinces except Newfoundland and in some jurisdictions special licences may be granted to those who have not reached the specified age.

* Except as otherwise indicated, the material in this Part has been revised in the Public Finance and Transportation Division, Dominion Bureau of Statistics.

† The information in this Section has been revised from material provided by the officials in charge of the administration of motor vehicle and traffic Acts and Regulations in the individual provinces and territories.

Motor Vehicle Regulations.—In general, all motor vehicles and trailers must be registered annually, with the payment of specified fees, and must carry two registration plates, one on the front and one on the back of the vehicle (one only for the back of trailers). In most provinces in event of sale the registration plates stay with the car but in Manitoba and Saskatchewan the plates are retained by the owner. A change of ownership of the vehicle must be recorded with the registration authority. However, exception from registration is granted for a specified period (usually at least 90 days, except in Quebec where the maximum is 90 days and British Columbia where it is six months) in any year to visitors' private vehicles registered in another province or a state that grants reciprocal treatment. Regulations require a safe standard of efficiency in the mechanism of the vehicle and of its brakes and stipulate that equipment include non-glare headlights, a proper rear light, a muffler, a windshield wiper, a rear-vision mirror, and a warning device.

Traffic Regulations.—In all provinces and territories, vehicles keep to the right-hand side of the road. Everywhere motorists are required to observe traffic signs, lights, etc., placed at strategic points on highways and roads. The speed limit in most provinces is 50 miles an hour except in Quebec where it is 60, in Manitoba and Alberta where it is 60 in daytime and 50 at night, and in Nova Scotia where the limit is a "reasonable and prudent" speed, with a maximum of 60 miles an hour. Slower speeds are always required in cities, towns and villages, when passing schools and public playgrounds, at road intersections, railway crossings, or at other places or times where the view of the highway for a safe distance ahead is in any way obscured. In almost all provinces truck speed limits are at least five miles an hour below automobile speed limits. Motor vehicles must not pass a streetcar that has stopped to take on or discharge passengers except where safety zones are provided. In all provinces accidents resulting in personal injury or property damage of \$100 or more must be reported to a provincial or municipal police officer and a driver involved must not leave the scene of an accident until he has rendered all possible aid and disclosed his name to the injured party.

Penalties.—Penalties ascend in scale from small fines for minor infractions of any of the regulations to suspension of the operator's driving permit, impounding of the car, or imprisonment for serious infractions, recklessness, driving without an operator's licence, and especially for attempting to operate a motor vehicle while intoxicated.

Safety Responsibility Legislation.—Each province of Canada has enacted legislation under this heading (sometimes referred to as financial responsibility legislation). In general, these laws provide for the automatic suspension of the driver's licence and motor vehicle permit of a person convicted of an offence arising out of a motor vehicle accident, or a person involved directly or indirectly in an accident who is not covered for third-party insurance at the time of the accident. The suspension remains effective until any penalty or judgment has been satisfied and proof of financial responsibility for the future is filed. In Manitoba, Saskatchewan, Alberta and British Columbia, uninsured motor vehicles may be impounded following an accident of any consequence, i.e., an accident resulting in personal injury or death, or property damage in excess of \$100 (\$200 in Saskatchewan).

Although safety responsibility legislation has not been enacted in either the Yukon Territory or the Northwest Territories, the Motor Vehicle Ordinances of the two Territories require the owner of a motor vehicle to submit evidence of stipulated insurance coverage on such vehicle before he can obtain registration.

Unsatisfied Judgment Funds.—In recent years a new type of motor vehicle legislation has been enacted in all provinces except Quebec and Saskatchewan and in the Territories. This has usually taken the form of an amendment to the motor vehicle laws of the province and provides for the establishment of an Unsatisfied Judgment Fund, out of which are paid judgments awarded for damages arising out of motor vehicle accidents in the province which cannot be collected in the ordinary process of law. The Fund is created by the collection annually of an Unsatisfied Judgment Fund fee from the registered owner of every motor vehicle or from every person to whom a driver's licence is issued, except in

British Columbia and in Nova Scotia where the Fund is maintained by insurance companies. This fee does not exceed \$1 per annum except that Ontario collects \$5 from each uninsured owner of a motor vehicle at the time of registration. A feature of this legislation which is contained in some provincial statutes provides for the payment of judgments in the so-called 'hit-and-run' accidents. When these occur, if neither the owner nor the driver can be identified, action may be taken against the Registrar of Motor Vehicles; any judgment secured against the Registrar is paid out of the Fund. All of these laws contain a provision limiting the amount that can be paid out of the Fund on one judgment. In Ontario, Alberta and British Columbia the limits are \$10,000 for one person and \$20,000 for two or more persons injured in one accident. Ontario and Alberta provide for claims up to \$2,000 for property damage. In Manitoba the legal limits are \$10,000, \$20,000 and \$1,000, respectively, while other provinces retain lower limits of \$5,000, \$10,000 and \$1,000. For hit-and-run accidents payments are made for personal injuries or death only.

Sources of information for provincial motor vehicle and traffic regulations:—

Newfoundland

Administration.—Deputy Minister of Highways, St. John's.

Legislation.—The Highway Traffic Act, 1951, as amended.

Prince Edward Island

Administration.—The Provincial Secretary, Charlottetown.

Legislation.—The Highway Traffic Act (R.S.P.E.I. 1951, c. 73).

Nova Scotia

Administration.—Motor Vehicle Branch, Department of Highways, Halifax.

Legislation.—The Motor Vehicle Act (1954, c. 184) as amended, and the Motor Carrier Act (R.S.N.S. 1923, c. 78) as amended.

New Brunswick

Administration.—Motor Vehicle Division, Provincial Tax Branch, Department of Provincial Secretary-Treasurer, Fredericton.

Legislation.—The Motor Vehicle Act (R.S.N.B. 1955) as amended.

Quebec

Administration.—Motor Vehicle Service, Provincial Revenue Offices, Parliament Bldgs., Quebec.

Legislation.—The Motor Vehicles Act (R.S.Q. 1941, c. 142) as amended.

Ontario

Administration.—Motor Vehicles Branch, Department of Transport, Toronto.

Legislation.—The Highway Traffic Act (R.S.O. 1950, c. 167), the Public Vehicles Act (R.S.O. 1950, c. 322) and the Public Commercial Vehicles Act (R.S.O. 1950, c. 304).

Manitoba

Administration.—Minister of Public Utilities, Winnipeg.

Legislation.—The Highway Traffic Act (R.S.M. 1954, c. 112) as amended.

Saskatchewan

Administration.—Treasury Department, Highway Traffic Board, Revenue Building, Regina.

Legislation.—The Vehicles Act, 1957.

Alberta

Administration.—Motor Vehicle Branch, Department of Highways, Edmonton.

Legislation.—The Vehicles and Highway Traffic Act (R.S.A. 1955, c. 356) as amended, the Motor Vehicles Accident Indemnity Act (R.S.A. 1955, c. 209) as amended, the Public Service Vehicles Act (R.S.A. 1955, c. 265), and Rules and Regulations.

British Columbia

Administration and Legislation.—Enforcement of the Motor Vehicle Act, the Highway Act and the Motor Carrier Act is vested in the Royal Canadian Mounted Police and the various municipal police forces. The Highway Act is administered by the Minister of Highways, the Motor Carrier Act by the Public Utilities Commission, and the Motor Vehicle Act by the Superintendent of Motor Vehicles, Victoria, B.C.

Yukon Territory

Administration.—Commissioner of the Yukon Territory, Whitehorse, Y.T. Information regarding regulations may also be obtained from the Northern Administration Branch, Department of Northern Affairs and National Resources, Ottawa.

Legislation.—The Motor Vehicle Ordinance (1957, First Session, c. 1) as amended.

Northwest Territories

Administration.—Commissioner of the Northwest Territories. Address communications to the Director, Northern Administration Branch, Department of Northern Affairs and National Resources, Ottawa.

Legislation.—The Motor Vehicles Ordinance (1956, c. 72) as amended.

Section 2.—Highways and Roads

The populated sections of Canada are well supplied with highways and roads. Access to outlying settlements is provided to some extent by roads built by logging, pulp and paper, and mining companies, although these are not generally available for public travel. At the same time, great areas of Newfoundland, Quebec, Ontario, the Prairie Provinces, British Columbia and the Territories are very sparsely settled and are virtually without roads of any kind.

At the end of 1957, the mileage of highways and rural roads in Canada was 423,939. This mileage includes all roads under provincial jurisdiction, federal roads including those in the National Parks and the Yukon and Northwest Territories, and local roads under municipal jurisdiction other than the milages in cities and towns. The latter are given separately under the heading "Urban Roads", p. 796.

Newfoundland, Saskatchewan, British Columbia and the Territories reported decreases in 1957 as compared with 1956 for reasons mentioned in footnotes to Table 1. Federal roads, including those in the National Parks, the National Capital Commission driveways around Ottawa and in Gatineau Park, and the North West Highway System of British Columbia and the Yukon Territory, as well as other federally administered roads in the Yukon and Northwest Territories, totalled 6,049 miles.

1.—Road Milages classified by Type and by Province, 1956 and 1957

NOTE.—The figures for Canada are the sums of the milages so reported. Urban streets are not included.

Year and Classification	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon and N.W.T.	Canada
	miles	miles	miles	miles	miles	miles	miles	miles	miles	miles	miles	miles
1956												
Surfaced	2,826	2,020	9,441	13,063	32,088	65,723	4,814	27,065	35,715	13,874	2,699	209,328
Concrete surface.	—	12	7	—	251	757	132	—	1	31	—	1,191
Bituminous surface.....	121	388	2,031	2,618	9,110	11,435	1,941	1,889	2,658	3,616	8	35,815
Gravel.....	2,705	1,620	7,403	10,445	22,727	53,531	2,741	25,176	33,056	10,227	2,691	172,322
Earth	4,275	1,176	5,816	8	11,632	9,934	15,610	134,138	51,306	9,991	368	244,254
Totals, 1956..	7,101	3,196	15,257	13,071	43,720	75,657	20,424	161,203	87,021	23,865	3,067	453,582
1957												
Surfaced	3,319	2,176	9,592	13,128	38,678 ²	66,288	5,393	35,540	40,128	14,654	2,148	231,044 ³
Concrete surface.	—	13	7	—	226	751	158	—	1	30	—	1,186
Bituminous surface.....	124	327	2,235	2,798	10,059	11,430	1,309	3,125	2,739	3,779	12	37,937
Gravel.....	3,195	1,836	7,350	10,330	28,393 ²	54,107	3,926	32,415	37,388	10,845	2,136	191,921
Earth	3,000⁴	1,022	5,735	—	11,518	9,934	15,615	88,954⁵	48,714	8,238⁶	165	192,895
Totals, 1957..	6,319	3,198	15,327	13,128	50,196	76,222	21,008	121,494	88,842	22,892⁷	2,313⁷	423,939⁶

¹ Includes milages of gravel roads; details not available.

² Includes 5,750 miles of gravel roads, not previously reported.

³ Includes 2,551 miles of roads on Indian reserves, not previously reported.

⁴ Excludes 940 miles of unimproved winter trails.

⁵ Excludes 46,928 miles of unimproved road allowances.

⁶ Excludes 1,534 miles of "cleared only" roads.

⁷ Excludes duplication of milages in the National Parks of British Columbia and of the Alaska Highway in British Columbia and the Yukon, previously included.

Expenditures on roads and highways reached a new high in the year ended Mar. 31, 1958, at \$701,972,824. This figure was 7 p.c. higher than the expenditure in the previous fiscal year. Construction work was up 8 p.c. and maintenance down almost 6 p.c. Table 2 shows expenditure by provinces and federal-provincial-municipal distribution of such expenditure for the fiscal years ended 1954-58.

2.—Construction, Maintenance and General Expenditure on Rural Roads, Bridges and Ferries, by Province, Years Ended Mar. 31, 1954-58

Item and Province or Territory	1954	1955	1956	1957	1958
	\$	\$	\$	\$	\$
Construction.....	234,334,349¹	229,087,011¹	294,436,957¹	421,146,178¹	454,997,084
Newfoundland.....	4,240,406	7,921,808	8,990,495	6,675,115	6,063,686
Prince Edward Island.....	1,788,675	2,795,081	2,911,560	3,746,085	3,378,621
Nova Scotia.....	7,584,863	6,190,534	8,615,147	12,378,093	15,508,597
New Brunswick.....	6,953,831	6,867,169	11,042,564	14,994,989	17,313,315
Quebec.....	57,945,075	58,153,492	76,496,786	84,053,328	87,248,853
Ontario.....	64,807,939	56,762,275	85,171,965	115,855,688	120,256,227
Manitoba.....	12,162,353	12,389,735	12,474,617	18,902,472	21,500,959
Saskatchewan.....	13,860,596	13,390,784	12,682,869	23,611,136	17,497,330
Alberta.....	40,105,154	40,240,306	39,800,420	50,630,485	52,984,501
British Columbia.....	23,433,190	22,128,045	33,283,542	83,598,882	109,098,346
Yukon and N.W.T.....	739,744	1,010,545	1,850,116	3,999,750	4,146,649
Maintenance.....	149,844,221	178,832,011	187,448,444	189,877,569	179,299,420
Newfoundland.....	2,267,335	2,696,832	2,932,427	2,854,937	4,115,203
Prince Edward Island.....	1,219,612	1,159,173	1,588,903	1,257,941	1,345,050
Nova Scotia.....	9,563,259	10,376,255	11,580,407	13,845,101	11,386,596
New Brunswick.....	8,235,747	10,281,339	10,855,460	11,123,134	11,282,258
Quebec.....	31,184,047	35,195,468	35,418,194	41,685,630	43,070,708
Ontario.....	52,667,538	57,464,175	60,591,398	57,649,342	59,330,704
Manitoba.....	2,648,689	3,314,421	3,642,016	4,162,996	4,319,627
Saskatchewan.....	4,939,826	15,517,577	17,159,558	14,429,203	6,613,988
Alberta.....	18,487,280	22,744,792	22,610,892	22,758,513	20,108,685
British Columbia.....	14,558,602	15,493,701	17,164,500	18,000,792	15,442,032
Yukon and N.W.T.....	4,072,286	4,588,278	3,904,689	2,109,980	2,284,569
Administration and General².....	12,889,589	21,552,986	31,966,869	40,775,633	48,655,732
Newfoundland.....	279,402	347,610	397,452	429,140	120,369
Prince Edward Island.....	73,115	73,268	81,709	62,083	91,212
Nova Scotia.....	792,148	798,905	960,176	961,299	1,243,849
New Brunswick.....	307,994	416,716	498,305	567,377	937,314
Quebec.....	2,727,669	3,383,708	3,524,851	3,363,079	2,571,576
Ontario.....	5,027,809	10,958,835	21,135,457	28,657,745	34,666,942
Manitoba.....	787,645	801,103	965,426	1,080,353	1,330,759
Saskatchewan.....	433,990	1,251,078	1,506,549	1,644,620	2,467,587
Alberta.....	75,647 ³	1,259,707	736,500	490,493	1,246,725
British Columbia.....	1,971,234	1,805,578	1,608,382	2,865,362	3,161,716
Yukon and N.W.T.....	13,102	25,476	39,402	496,076	552,683
Totals.....	397,068,159	429,472,008	513,852,270	653,567,078⁴	701,972,824⁵
Distribution of All Expenditure—					
Federal.....	26,759,571	32,775,800	36,644,143	59,887,876	69,812,100
Provincial.....	341,501,941	355,454,863	435,583,891	525,204,516	542,606,788
Municipal.....	27,505,913	37,173,083	40,213,328	45,945,407	51,278,877
Other.....	1,500,734	4,068,262	1,410,908	19,526,279	38,275,059

¹ Includes payments from railways and contributions from the Railway Grade Crossing Fund toward elimination of grade crossings, etc., amounting to \$712,523 in 1953-54, \$1,237,237 in 1954-55, \$1,116,876 in 1955-56 and \$2,700,155 in 1956-57. ² Includes federal administrative costs re Trans-Canada Highway amounting to \$399,834 in 1953-54, \$431,002 in 1954-55, \$462,600 in 1955-56, \$168,000 in 1956-57 and \$235,000 in 1957-58. ³ Federal administrative costs only.

⁴ Includes expenditures of \$1,767,698 by municipalities in Manitoba for which no breakdown is available. ⁵ Includes expenditures of \$2,573,262 by municipalities in Manitoba, of \$14,932,793 by the Saskatchewan Department of Municipal Affairs, and of \$1,514,533 by the British Columbia Department of Highways for which no breakdown is available.

The Trans-Canada Highway System.—The original federal-provincial agreement of 1949 for construction of the Trans-Canada Highway was given in outline, together with other data on specifications and proposed route across the participating provinces, in the 1951 Year Book, pp. 631-634. The original Act set the standards to be met: a hard-surfaced, two-lane highway, 22 to 24 feet wide with ample shoulder widths, bridge clearances and sight distances, low gradients and curvature, a maximum load capacity of nine tons for one axle, and the elimination, wherever possible, of railway grade crossings. The shortest practicable east-west route was to be designated by each province within its own borders, in agreement on terminal points with adjoining provinces. Those sections within the National Parks were to be the responsibility of the Federal Government.

Certain amendments to financial provisions and completion date were discussed at the Federal-Provincial Conference held at Ottawa in November 1955, and the Trans-Canada Highway Act was amended by Parliament in June 1956. The new Act gives authority for increasing federal expenditure from \$150,000,000 to \$250,000,000 under a formula by which the Federal Government will pay 90 p.c. of the cost of building 10 p.c. of the mileage of the Trans-Canada Highway in each province in an effort to close gaps where no road at all exists or where certain portions are below standard. The basic 50-50 financial arrangement is still in force on the remaining 90 p.c. of the mileage in each province. A revised completion date is set at Dec. 31, 1960. New federal-provincial agreements were entered into by the participating provinces during the six months following passage of the amendments.

The Provincial Government of Quebec is not a party to a federal-provincial agreement but there is a paved highway across that province, linking the two ends of the Trans-Canada Highway route in Ontario and New Brunswick.

In the nine participating provinces the route as amended in 1956 will total 4,444 miles divided as follows: Newfoundland 554; Prince Edward Island 71; Nova Scotia 311; New Brunswick 390; Ontario 1,436; Manitoba 309; Saskatchewan 406; Alberta 282; British Columbia 568; and in the National Parks 117. Revisions in location have since altered some mileage totals. For instance, the mileage through Mount Revelstoke and Glacier National Parks in British Columbia was shortened by a decision to use the Rogers Pass route, and the decision on the location of Terra Nova, the new National Park in Newfoundland, increased the mileage for which the Federal Government is solely responsible by 63 miles. Thus the National Park mileage is altered to 143. The sum of \$12,500,000 was allocated by Parliament for construction of the Highway through the National Parks during the year ended Mar. 31, 1959.

Contractual commitments of the nine participating provinces for new construction on the Highway during the period Dec. 9, 1949, to Aug. 31, 1958, amounted to \$428,682,880 of which the Federal Government's share, including the additional 40 p.c. under the amended Act, was \$255,587,158. Federal payments to the provinces during this period for prior, interim and new construction totalled \$162,081,563. On-site labour expended on the Highway up to Mar. 31, 1958, amounted to 6,694,235 eight-hour man-days of employment; off-site employment required for the provision of necessary material and services was estimated at 11,380,200 man-days.

In Saskatchewan, work was completed over the whole route of 406 miles, and the Highway was opened and dedicated at a ceremony on Aug. 21, 1957. In provinces more handicapped by problems of terrain and construction, progress was reported. At Aug. 31, 1958, contracts for 2,963 miles of grading had been approved and the equivalent of 2,647 miles built; contracts for base-course had been approved for 2,656 miles and the equivalent of 2,276 miles completed; paving to specified standard had been completed over a distance of 1,959 miles; 357 bridges, overpasses and other structures of over 20-foot span had been approved for construction.

Urban Roads.—Information on urban roads is obtained from municipalities with populations of over 1,000. Brief statistical data are given in Table 3; more detail may be obtained from DBS annual report *Highway Statistics*.

3.—Statistics of Urban Roads, Years Ended Mar. 31, 1955-57

Item	1955	1956	1957
Municipalities Reporting..... No.	794	799	806
Total Expenditure Reported..... \$	87,909,902	106,117,610	121,827,755
New construction..... \$	36,423,626	45,543,596	52,208,448
Reconstruction, repair, cleaning, sanding and snow removal. \$	51,486,276	60,574,014	72,619,307
Total Urban Milage..... No.	22,027	22,823	24,841
Rigid pavement..... "	5,796	6,049	5,239
Flexible pavement..... "	3,347	3,239	8,121
Untreated gravel or earth..... "	12,884	13,535	11,481

Section 3.—Motor Vehicles

Registration.—Motor vehicle registrations continue to increase year by year, reaching a record of 4,459,595 in 1957 compared with 4,226,474 in 1956 and 2,034,943 in 1948. Of the total in 1957, 3,383,419 were for passenger cars—one for every five Canadians. Registrations by province are given in Table 4 and types of vehicles registered by province in Table 5.

4.—Motor Vehicles Registered, by Province, 1948-57

NOTE.—Registrations given here include passenger cars, trucks, buses, motorcycles, service cars, etc., but not trailers or dealer licences. Figures for 1904-35 are given in the 1937 Year Book, p. 663; for 1936-44 in the 1948-49 edition, p. 707; and for 1945-47 in the 1956 edition, p. 814.

Year	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Total ¹
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
1948.....	...	11,290	76,319	62,366	335,953	874,933	128,000	167,515	173,950	202,126	2,034,943
1949.....	13,981	13,211	83,443	67,280	384,733	970,137	139,836	185,027	200,428	230,008	2,290,628
1950.....	16,375	15,383	94,743	74,415	433,701	1,104,080	157,788	199,866	230,624	270,312	2,600,511
1951.....	20,058	16,896	105,262	83,023	500,729	1,205,098	171,265	215,450	259,841	291,417	2,872,420
1952.....	23,630	18,717	114,982	89,839	574,974	1,291,753	187,881	237,014	291,469	321,482	3,155,997
1953.....	29,576	20,286	129,564	93,914	617,855	1,406,119	203,652	257,504	318,812	348,830	3,430,672
1954.....	34,423	20,848	133,087	99,058	674,114	1,489,980	210,471	267,373	338,541	371,711	3,644,589
1955.....	39,766	22,145	149,841	106,648	743,682	1,617,853	222,474	274,950	356,839	409,343	3,948,652
1956 ²	45,768	20,779	151,764	110,963	824,908	1,710,240	233,848	291,053	381,153	450,547	4,226,474
1957 ²	47,655	21,193	156,498	116,350	881,047	1,793,499	244,342	300,094	405,229	487,533	4,459,595

¹ Includes registrations in the Yukon and Northwest Territories.

² Excludes registered farm tractors.

5.—Types of Motor Vehicles Registered, by Province, 1956 and 1957

Year and Province or Territory	Passenger Cars ¹	Commercial Cars, Trucks, etc. ²	Buses	Motor-cycles	Total
	No.	No.	No.	No.	No.
1956					
Newfoundland.....	32,555	12,758	157	298	45,768
Prince Edward Island.....	14,163	6,457	11	148	20,779
Nova Scotia.....	111,141	38,695	756	1,172	151,764
New Brunswick.....	81,390	28,194	472	907	110,963
Quebec.....	627,993	180,217	3,284	13,414	824,908
Ontario.....	1,365,874	328,434	4,280	11,652	1,710,240
Manitoba.....	173,001 ³	58,901 ³	199	1,747	233,848 ³
Saskatchewan.....	179,986	110,291	125	651	291,053
Alberta.....	256,177	120,190	2,937	1,849	381,153
British Columbia.....	341,650	105,173	³	3,724	450,547
Yukon and N.W.T.....	3,135	2,274	24	18	5,451
Canada, 1956	3,187,065³	991,584³	12,245	35,530	4,226,474³
1957					
Newfoundland.....	34,361	12,848	158	288	47,655
Prince Edward Island.....	14,595	6,462	10	126	21,193
Nova Scotia.....	118,216	36,536	707	1,039	156,498
New Brunswick.....	86,518	28,411	504	917	116,350
Quebec.....	677,336	186,409	4,262	13,040	881,047
Ontario.....	1,431,438	345,961	4,578	11,522	1,793,499
Manitoba.....	182,555	59,986	199	1,602	244,342
Saskatchewan.....	186,543	112,759	129	663	300,094
Alberta.....	276,679	123,474	3,084	1,992	405,229
British Columbia.....	371,727	112,092	³	3,714	487,533
Yukon and N.W.T.....	3,451	2,662	35	7	6,155
Canada, 1957	3,383,419	1,027,600	13,666	34,910	4,459,595

¹ Includes taxis.² Includes service cars, road tractors, etc., but excludes registered farm tractors.³ Included with trucks.

Apparent Supply of Automobiles.—The apparent supply of automobiles in Canada in any year is computed by deducting the number exported from the sum of the production and imports. Statistics regarding retail sales and the financing of motor vehicle sales are given in Chapter XX on Domestic Trade and Prices.

6.—Apparent Supply of New Automobiles, 1948-57

Year	Cars Made for Sale in Canada ¹		Car Imports		Re-exports of Imported Cars		Apparent Supply	
	Pas-senger	Com-mercial ²	Pas-senger	Com-mercial	Pas-senger	Com-mercial	Pas-senger	Com-mercial ²
	No.	No.	No.	No.	No.	No.	No.	No.
1948.....	135,316	73,582	17,037	3,575	17	4	152,336	77,153
1949.....	177,060	85,715	35,293	3,404	32	8	212,321	89,111
1950.....	259,481	96,826	81,722	6,806	62	20	341,141	103,612
1951.....	243,155	105,547	42,631	5,703	2,866	11	282,920	111,239
1952.....	245,443	112,485	35,665	4,328	999	11	280,109	116,802
1953.....	319,937	100,772	53,179	5,296	44	3	373,072	106,065
1954.....	267,452	59,666	38,509	4,973	84	25	305,877	64,614
1955.....	349,306	69,186	48,546	9,403	22	24	397,830	78,565
1956.....	349,809	85,094	76,200	13,032	45	42	425,964	98,084
1957.....	318,416	64,857	70,796	9,215	65	39	389,147	74,033

¹ Factory shipments since 1952.² Includes Armed Forces vehicles.

Provincial Government Revenue from Motor Vehicles.—The taxation of motor vehicles, garages, drivers, chauffeurs, etc., is an important source of provincial government income. In every province licences or permits duly issued by the provincial authorities are required for motor vehicles of all kinds, trailers, operators or drivers, paid chauffeurs, dealers, garages and gasoline and service stations. In 1957 the average cost per motor vehicle for operating taxes and licences was about \$108. Lower gasoline tax rates in the five provinces from Ontario westward brought the averages for those provinces below the national average. Present gasoline tax rates range from one cent per gallon in the North-west Territories to 17 cents in Newfoundland and Nova Scotia.

The more important sources from which provincial revenue from motor vehicles is derived are shown in Table 7. Federal Government revenue from import duties, excise and sales taxes are given in Chapter XXII on Public Finance.

7.—Provincial Revenue from the Registration and Operation of Motor Vehicles, by Province, Years Ended Mar. 31, 1957 and 1958

Year and Province or Territory	Passenger Automobile Licences	Truck, Bus, Trailer and other Vehicle Licences	Motorcycle Licences	Chauffeur, Driver and Dealer Licences	Public Service Vehicle Tax	Gasoline Tax	Total ¹
	\$	\$	\$	\$	\$	\$	\$
1957							
Newfoundland.....	556,218	623,423	2,457	165,940		3,894,083	5,359,376
Prince Edward Island.....	243,556	268,459	560	61,289	3,531	1,425,452	2,011,469
Nova Scotia.....	2,108,283	2,063,631	3	337,361	38,627	13,125,184	17,928,512
New Brunswick.....	1,639,832	1,906,129	5,217	281,777	27,458	10,670,712	14,687,295
Quebec.....	13,882,420	13,010,632	50,973	2,558,706	862,527	78,026,440	109,382,268
Ontario.....	20,388,293	22,743,281	34,177	2,431,916	2,361,756	112,940,735	163,022,999
Manitoba.....	2,699,343	1,276,388	6,917	108,170	1,074,377	12,178,334	17,502,200
Saskatchewan.....	2,314,543	1,875,483	4	342,960	617,108	16,221,617	21,868,928
Alberta.....	3,679,979	5,841,955	5	616,619	183,109	22,256,815	33,292,650
British Columbia.....	6,721,331	4,130,225	16,615	1,137,378	654,686	23,967,910	37,329,567
Yukon and N.W.T.....	41,387	33,781	47	18,001	32,819	332,392	463,936
Totals, 1957.....	54,275,185	53,778,387	116,963	8,060,117	5,855,998	295,039,674	422,849,200

For footnotes, see end of table.

**7.—Provincial Revenue from the Registration and Operation of Motor Vehicles,
by Province, Years Ended Mar. 31, 1957 and 1958—concluded**

Year and Province or Territory	Passenger Automobile Licences	Truck, Bus, Trailer and other Vehicle Licences	Motorcycle Licences	Chauffeur, Driver and Dealer Licences	Public Service Vehicle Tax	Gasoline Tax	Total ¹
	\$	\$	\$	\$	\$	\$	\$
1958							
Newfoundland.....	599,822	632,940	2,421	172,857	²	4,054,881	5,600,704
Prince Edward Island..	250,971	276,982	478	62,834	3,245	1,883,246	2,484,959
Nova Scotia.....	2,225,978	2,107,544	³	348,537	34,410	13,801,492	18,795,437
New Brunswick.....	1,758,840	1,920,466	5,206	299,959	49,237	10,892,134	15,117,621
Quebec.....	15,399,144	13,945,852	49,552	2,834,312	981,584	84,727,249	119,060,848
Ontario.....	22,213,824	23,459,631	35,389	2,719,805	2,630,372	143,218,806	196,859,095
Manitoba.....	2,866,077	1,344,185	6,610	701,619	1,185,787	13,808,365	20,073,480
Saskatchewan.....	2,623,436	2,257,518	⁴	406,645	934,324	18,044,253	25,790,981
Alberta.....	4,010,546	6,010,924	⁵	2,211,376	176,106	23,902,404	37,072,275
British Columbia.....	7,376,798	4,523,549	16,873	661,118	684,859	25,642,375	39,632,996
Yukon and N.W.T.....	42,906	33,813	20	19,438	35,830	268,821	406,127
Totals, 1958.....	59,368,342	56,513,404	116,549	10,438,500	6,715,754	341,144,026	480,894,523

¹ Includes other items not shown such as transfer of motor vehicles, garage and service station licences, and fines for infractions of motor vehicle laws. ² Included with trucks. ³ Included with other motor vehicles. ⁴ Included with miscellaneous revenues and therefore in total. ⁵ Included with passenger automobiles.

Sales of Gasoline.—Gasoline and diesel oil used as fuel in internal combustion engines are taxed when used by motor vehicles on highways. In some provinces they are taxed when used for other purposes. Liquified petroleum gas when used in motor buses and trucks is considered as "gasoline". The consumption of taxable gasoline, which is used almost entirely for automotive purposes, rose 6.9 p.c. to 2,626,000,000 gal. in 1957. All provinces showed increases with the exception of Prince Edward Island. Sales by province are shown in Table 8. Net sales are calculated by deducting from the gross sales (1) tax-exempt sales, (2) gasoline on which refunds have been paid, and (3) exports.

8.—Sales of Gasoline, by Province, 1953-57

Province or Territory	1953	1954	1955	1956	1957
	gal.	gal.	gal.	gal.	gal.
Newfoundland.....	16,504,200	18,818,942	21,534,679	24,242,239	25,526,674
Prince Edward Island.....	12,388,599	12,782,733	13,751,121	14,325,068	14,293,703
Nova Scotia.....	75,772,354	80,518,367	86,499,272	91,133,927	94,852,532
New Brunswick.....	77,108,360	78,065,848	75,076,615	81,177,965	83,717,829
Quebec.....	456,460,906	484,868,758	545,070,050	611,828,946	660,810,503
Ontario.....	928,515,728	991,397,120	1,099,962,376	1,198,568,793	1,237,723,059
Manitoba.....	159,554,101	162,578,296	188,284,222	200,314,027	219,559,349
Saskatchewan.....	250,698,689	244,370,743	262,201,711	269,661,903	280,457,734
Alberta.....	361,665,017	388,929,549	353,924,513	383,609,186	402,560,725
British Columbia.....	210,028,255	235,670,948	256,166,048	298,957,204	324,972,114
Yukon.....	..	..	..	4,245,811	4,734,949
Totals, Gross Sales.....	2,548,696,209	2,698,001,304	2,902,470,607	3,178,065,069	3,349,209,171
Refunds and exemptions.....	646,181,392	677,096,843	675,490,362	721,076,713	723,118,141
Totals, Net Sales.....	1,902,514,817	2,020,904,461	2,226,980,245	2,456,988,356	2,626,091,030

Motor Carriers—Freight.*—Statistics of the for-hire segment of the motor carrier industry have been collected since 1941. However, as little capital is required to enter the trucking business, many marginal operators are associated with the industry and the large turnover and numerous changes each year create many problems in the collection of statistics, though gradual improvement is being shown. The 2,062 firms from which usable returns were secured in 1957 reported gross revenue of \$259,056,237 compared with 2,531 firms reporting \$233,510,896 in 1956.

The motor carrier freight industry is divided into four classes based on gross annual revenue. Operators of vehicle fleets owned and operated by private companies, where the vehicles are not available for public service, such as dairies, bakeries, departmental and grocery stores, oil and gasoline distributors and breweries, are excluded; also excluded are operators of co-operatively owned vehicles and those used under almost exclusive contract such as for the collection of milk.

* Statistics are given in more detail in DBS annual report *Motor Carriers—Freight*.

9.—Summary Statistics of Motor Carriers—Freight, 1954-57

Item		1954	1955	1956	1957
Carriers Reporting	No.	2,411	2,681	2,531	2,062
Investments—Land, Buildings, Equipment, etc.	\$	116,437,560	144,276,267	162,424,006	180,278,104
Revenue	\$	181,534,059	220,025,522	233,510,896	259,056,237
Freight—					
Intercity and rural.....	\$	174,258,539	209,097,187	225,714,357	250,667,972
City.....	\$	3,243,616	3,555,488	2,595,265	4,153,112
Other Motor Carriers—					
Intercity and rural.....	\$	3,427,360	6,798,673	4,678,402	3,880,296
City.....	\$	604,544	574,174	522,872	354,857
Operating Expenditure	\$	169,083,544	203,489,772	215,202,580	244,836,400
Maintenance.....	\$	29,213,728	35,406,681	39,205,670	42,138,666
Wages and bonuses of drivers and helpers.....	\$	42,998,139	52,608,437	55,867,079	59,975,209
Other transportation expenditure.....	\$	48,809,319	58,771,339	58,701,995	66,210,999
Operating taxes and licences.....	\$	11,786,669	14,527,230	15,903,382	17,783,858
Other operating expenditure.....	\$	36,275,689	42,176,085	45,523,854	58,727,668
Net Operating Revenue	\$	12,450,515	16,535,750	18,308,316	14,219,837
Traffic and Employees—					
Freight carried ¹	ton	26,749,141	23,995,693	22,559,282	21,198,431
Fuel Consumed—					
Gasoline.....	gal.	56,953,520	61,945,737	61,005,601	63,353,134
Diesel oil.....	"	7,801,432	8,740,265	11,612,037	11,693,667
Liquefied petroleum gases.....	"	368,328	484,070	465,821	121,813
Working proprietors.....	No.	2,177	2,477	2,342	1,786
Allowances of working proprietors.....	\$	5,411,657	6,261,329	5,638,504	5,009,966
Employees—					
Average employed during year.....	No.	20,283	23,518	24,733	26,338
Total salaries and wages.....	\$	64,983,863	84,415,585	84,425,689	97,457,289
Equipment—					
Trucks.....	No.	8,455	8,841	8,870	8,904
Road tractors.....	"	6,343	7,343	6,416	8,205
Semi-trailers.....	"	8,034	9,638	10,710	11,614
Trailers.....	"	895	690	395	309
Trucks with diesel engines.....	"	51	74	94	60
Road tractors with diesel engines.....	"	448	873	1,355	1,538

¹ Excludes carriers with annual gross revenues of less than \$20,000.

10.—Statistics of Motor Carriers—Freight, classified by Revenue Group, 1955-57

Year and Item	Annual Gross Revenue			
	Over \$500,000	\$100,000 to \$499,999	\$20,000 to \$99,999	\$19,999 and Under
1955				
Carriers Reporting No.	86	213	613	1,769
Cost of Land, Buildings, Equipment, etc. \$	84,130,787	29,372,508	19,153,785	11,619,187
Revenue \$	132,258,738	46,856,556	27,150,717	13,759,511
Freight..... \$	128,608,993	44,751,009	26,155,520	13,137,153
Other..... \$	3,649,745	2,105,547	995,197	622,358
Operating Expenditure \$	121,341,184	43,898,770	24,477,826	10,771,992
Net Operating Revenue \$	7,917,554	2,957,786	2,672,891	2,987,519
Traffic—				
Freight carried ¹ ton	9,991,207	5,895,828	8,108,658	..
Fuel Consumed—				
Gasoline..... gal.	36,227,351	14,795,642	10,922,744	..
Diesel oil..... "	6,726,373	1,698,917	314,975	..
Liquefied petroleum gases..... "	470,905	503	12,662	..
Working proprietors..... No.	5	55	595	1,822
Allowances of working proprietors..... \$	75,912	492,179	2,210,441	3,482,797
1956				
Carriers Reporting No.	85	214	572	1,660
Cost of Land, Buildings, Equipment, etc. \$	104,602,456	29,972,070	18,659,881	9,789,599
Revenue \$	149,095,214	47,980,987	25,317,113	11,117,582
Freight..... \$	146,954,162	46,473,413	24,282,182	10,599,865
Other..... \$	2,141,052	1,507,574	1,034,931	517,717
Operating Expenditure \$	138,577,614	45,788,853	22,561,273	8,274,840
Net Operating Revenue \$	10,517,600	2,192,134	2,755,840	2,842,742
Traffic—				
Freight carried ¹ ton	11,088,102	6,758,957	4,712,223	..
Fuel Consumed—				
Gasoline..... gal.	37,357,141	14,697,795	8,950,665	..
Diesel oil..... "	8,511,819	2,081,184	1,019,034	..
Liquefied petroleum gases..... "	453,821	3,000	9,000	..
Working proprietors..... No.	4	42	561	1,735
Allowances of working proprietors..... \$	32,640	349,743	2,273,345	2,982,776
1957				
Carriers Reporting No.	103	221	444	1,294
Cost of Land, Buildings, Equipment, etc. \$	122,531,230	33,003,205	14,998,552	9,745,117
Revenue \$	176,417,817	50,014,868	21,278,576	11,344,976
Freight..... \$	174,395,104	48,510,027	20,836,848	11,079,105
Other..... \$	2,022,713	1,504,841	441,728	265,871
Operating Expenditure \$	168,447,384	48,229,752	19,214,740	8,914,524
Net Operating Revenue \$	7,970,433	1,785,116	2,033,836	2,430,452
Traffic—				
Freight carried ¹ ton	12,385,781	5,523,557	3,289,093	..
Fuel Consumed—				
Gasoline..... gal.	40,993,214	15,099,028	7,260,892	..
Diesel oil..... "	9,521,969	1,824,682	347,016	..
Liquefied petroleum gases..... "	102,978	835	18,000	..
Working proprietors..... No.	26	42	397	1,321
Allowances of working proprietors..... \$	213,347	335,356	1,760,047	2,701,216

¹ Incomplete coverage.

Passenger Buses.*—As previously discussed (p. 788), the collection of statistics for motor carriers includes a separate section dealing with the passenger bus industry. Data presented refer to the "for-hire" segment of the industry, divided into three classes according to gross annual revenues. Only those companies engaged in intercity and rural operations whose annual gross revenues exceed \$6,000 are covered. Motor bus or trolley coach operations of urban transit systems, and the operations of school buses owned and operated by school boards, municipalities, or under contract are not included.

* Statistics are given in more detail in DBS monthly and annual reports *Passenger Bus Statistics*.

11.—Summary Statistics of Intercity and Rural Passenger Bus Companies, 1954-57

Item	All Carriers	Carriers with Annual Gross Revenue Over \$6,000			
		1954	1955	1956	1957
Carriers Reporting..... No.	398	201	149	136	
Cost of Land, Buildings, Equipment, etc.... \$	59,775,178	57,491,424	57,081,464	57,834,081	
Revenue..... \$	48,261,578	47,685,668	47,714,152	47,250,757	
Passenger—					
Intercity and rural..... \$	40,295,030	39,936,526	39,948,106	39,277,877	
City..... \$	1,555,981	1,455,193	1,269,769	1,285,710	
Other Motor Carriers—					
Intercity and rural..... \$	6,227,957	6,044,525	6,421,192	6,623,138	
City..... \$	182,610	249,424	75,085	64,032	
Operating Expenditure..... \$	46,880,489	44,956,475	43,879,782	43,404,424	
Maintenance..... \$	10,571,752	11,246,456	11,311,170	10,078,321	
Wages and bonuses of drivers and helpers..... \$	10,386,801	10,002,390	9,829,337	9,808,732	
Other transportation expenditure..... \$	12,350,158	11,238,544	10,591,089	10,867,088	
Operating taxes and licenses..... \$	3,912,498	3,966,360	3,737,614	3,571,718	
Other operating expenditure..... \$	9,659,280	8,502,725	8,410,572	9,078,565	
Net Operating Revenue..... \$	1,381,089	2,729,193	3,834,370	3,846,333	
Traffic and Employees—					
Passengers—					
Regular Routes—					
Intercity and rural..... No.	72,685,245	72,940,800	65,261,484	54,447,010	
City..... "	18,464,880	13,839,511	9,112,942	13,304,475	
Special and Chartered Service—					
Intercity and rural..... "	5,091,154	5,322,406	2,734,702	2,600,370	
City..... "	8,016	55,000	55,000	50,108	
Bus Miles—					
Regular Routes—					
Intercity and rural..... No.	98,474,092	94,262,207	90,825,349	83,898,345	
City..... "	4,471,324	2,807,175	2,998,468	3,787,702	
Special and Chartered Service—					
Intercity and rural..... "	5,008,067	5,486,026	5,813,456	5,627,622	
City..... "	6,264	123,406	150,831	74,870	
Gasoline consumed..... gal.	14,927,617	13,138,899	10,017,975	8,578,183	
Diesel oil consumed..... "	3,048,133	4,248,191	5,025,200	5,626,623	
Working proprietors..... No.	208	117	82	66	
Allowances of working proprietors..... \$	379,992	315,405	194,731	184,065	
Employees—					
Average employed during year..... No.	6,364	5,895	5,481	5,326	
Total salaries and wages..... \$	19,835,852	19,269,704	19,141,672	19,355,124	
Equipment—					
Buses..... No.	2,996	2,629	2,198	2,115	
Buses with diesel engines..... "	438	547	637	765	

**12.—Statistics of Intercity and Rural Passenger Bus Companies classified by
Revenue Group, 1955-57**

Item	Annual Gross Revenue		
	\$100,000 or More	\$20,000 to \$99,999	\$6,000 to \$20,000
1955			
Carriers Reporting No.	42	72	87
Cost of Land, Buildings, Equipment, etc. \$	51,951,861	4,503,679	1,035,884
Revenue \$	43,225,759	2,544,225	915,684
Passenger..... \$	40,649,894	2,930,023	749,208
Other..... \$	2,575,865	614,197	166,476
Operating Expenditure \$	40,691,241	3,440,647	824,587
Net Operating Revenue \$	2,534,518	103,578	91,097
Traffic—			
Passengers..... No.	82,237,158	8,112,381	1,808,178
Bus miles..... "	90,641,532	8,321,550	3,716,732
Gasoline consumed..... gal.	11,240,438	1,454,748	434,683
Diesel oil consumed..... "	4,207,892	40,299	—
Liquefied petroleum gases consumed..... "	—	—	—
Working proprietors..... No.	2	30	85
Allowances of working proprietors..... \$	19,434	154,649	141,322
1956			
Carriers Reporting No.	43	48	58
Cost of Land, Buildings, Equipment, etc. \$	53,359,425	3,047,631	674,408
Revenue \$	44,590,651	2,503,889	619,612
Passenger..... \$	41,681,947	2,099,557	503,578
Other..... \$	2,898,704	404,332	116,034
Operating Expenditure \$	40,905,735	2,437,739	536,308
Net Operating Revenue \$	3,684,916	66,150	83,304
Traffic—			
Passengers..... No.	71,440,071	4,719,553	1,004,504
Bus miles..... "	92,045,451	5,492,442	2,250,211
Gasoline consumed..... gal.	8,686,766	1,034,719	296,500
Diesel oil consumed..... "	5,004,987	20,213	—
Liquefied petroleum gases consumed..... "	—	—	—
Working proprietors..... No.	2	24	56
Allowances of working proprietors..... \$	—	96,376	98,355
1957			
Carriers Reporting No.	45	44	47
Cost of Land, Buildings, Equipment, etc. \$	54,438,062	2,833,396	562,623
Revenue \$	44,550,475	2,200,840	499,442
Passenger..... \$	41,446,256	1,895,161	441,504
Other..... \$	3,104,219	305,679	57,938
Operating Expenditure \$	40,886,035	2,103,535	414,854
Net Operating Revenue \$	3,664,440	97,305	84,588
Traffic—			
Passengers..... No.	65,979,215	3,598,722	824,026
Bus miles..... "	86,662,157	4,965,589	1,760,793
Gasoline consumed..... gal.	7,417,844	920,629	239,700
Diesel oil consumed..... "	5,599,452	26,064	1,107
Liquefied petroleum gases consumed..... "	—	—	—
Working proprietors..... No.	3	19	44
Allowances of working proprietors..... \$	22,406	78,010	83,649

Motor Transport Traffic.*—Motor transport traffic surveys have been conducted in all provinces on a continuing basis since 1957 by means of random samples of vehicles selected from provincial registration records. Approximately 3 p.c. of total registrations were sampled for surveys of truck operations during each quarter of 1957. Each quarterly survey ran for a seven-day period, Sunday to the following Saturday.

Excluding vehicles that do not perform normal transportation services such as cranes, tow trucks, road building equipment, etc., the average number of trucks licensed in Canada during the year 1957 was 832,055. Of these, 5.6 p.c. were for-hire carriers, 25.8 p.c. were private intercity trucks, 33.5 p.c. were private trucks operated predominantly within urban areas, and 35.1 p.c. were farm trucks. One-third of the total number were registered in Ontario and one-half were registered in the two provinces of Ontario and Quebec.

13.—Average Truck Population, by Type of Operation and Province, 1957

Type of Operation	Atlantic Provinces	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Canada
	No.	No.	No.	No.	No.	No.	No.	No.
For-hire.....	4,362	12,081	13,803	1,258	1,618	8,499	4,723	46,344
Private—								
Intercity.....	30,214	36,895	75,843	2,395	9,755	29,661	30,239	214,992
Urban.....	18,194	65,564	113,862	20,676	10,202	10,080	40,313	278,891
Farm.....	13,928	32,535	61,677	30,790	76,948	62,931	13,019	291,828
Totals.....	66,698	147,075	265,185	55,119	98,523	111,171	88,284	832,055

Canadian registered trucks travelled 5,645,000,000 miles in Canada during the year, 15 p.c. of which was accounted for by for-hire trucks, 37 p.c. by private intercity vehicles, 31 p.c. by urban trucks and 17 p.c. by farm trucks, the most numerous of all vehicles.

For-hire trucks averaged 100,700 net ton-miles per vehicle and, although amounting to only 5.6 p.c. of total registrations, they accounted for 48 p.c. of the total net ton-miles performed by all commercial trucks in Canada, a result of the comparatively high average yearly mileage of for-hire trucks and also of the heavier average load carried (8.2 tons as compared with an average of 3.5 tons for all trucks). The predominance of heavier vehicles in the for-hire group also explains the low mileage per gallon of gasoline of 6.6 as compared with a ratio of 10.3 for all vehicles.

* Statistics are given in more detail in the national and provincial reports *Motor Transport Traffic Statistics* published by DBS.

14.—Summary Statistics of Truck Traffic, by Type of Operation, 1957

Item		For-Hire	Private			Total
			Intercity	Urban	Farm	
Miles per gallon of gasoline.....	No.	6.6	10.5	11.2	13.2	10.3
Average weight of goods carried.....	ton	8.2	3.6	1.4	1.2	3.5
Average net ton-miles per truck.....	No.	100,700	15,200	4,800	1,300	11,600
Capacity utilized.....	p.c.	47.8	38.2	31.1	23.1	39.8
Average gross ton-miles per truck.....	No.	213,900	44,900	20,400	8,600	33,300
Mileage Travelled—	'000,000 miles					
Newfoundland.....		5.9	19.7	8.6	2.8	37.0
Prince Edward Island.....		2.9	10.7	3.7	9.1	26.4
Nova Scotia.....		33.9	117.0	48.1	29.8	228.8
New Brunswick.....		12.4	96.8	24.9	17.9	152.0
Quebec.....		197.8	461.4	460.6	132.8	1,252.6
Ontario.....		310.5	756.4	702.8	228.0	1,997.7
Manitoba.....		24.4	32.6	139.3	84.4	280.7
Saskatchewan.....		45.2	102.0	53.8	215.6	416.6
Alberta.....		138.9	252.5	66.4	209.8	667.6
British Columbia.....		73.2	239.6	219.1	53.8	585.7

Motor Vehicle Accidents.—Motorists are required by law to report accidents but complete statistics of these accidents are not available for all provinces. Statistics on all deaths from motor vehicle accidents are shown in Table 15. A direct comparison of such statistics between the provinces is of little value because of differences in size, population, motor vehicle density, etc., but, to put them on somewhat the same basis, the average number of deaths per 10,000 registered motor vehicles has been tabulated. These data still give no weight to differences in use of motor vehicles, variations in climate, road conditions, tourist cars, etc., all of which are factors in accidents.

Data presented in Table 16 relate to traffic accidents only and consequently may not be compared with Table 15 which includes details of fatalities occurring elsewhere than on public streets or roads.

15.—Deaths Resulting from Motor Vehicle Traffic and Non-traffic Accidents, by Province, 1948-57

NOTE.—Figures for 1926-35 will be found in the 1941 Year Book, p. 578; for 1936-44 in the 1948-49 edition, pp. 712-713; and for 1945-47 in the 1956 Year Book, pp. 819-820.

Year	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Total
DEATHS BY PLACE OF OCCURRENCE											
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
1948.....	...	5	96	118	599	782	81	87	125	193	2,086
1949.....	...	11	102	96	645	873	105	85	172	176	2,265
1950.....	18	7	94	103	682	850	75	91	162	188	2,270
1951.....	26	20	103	122	818	991	102	93	184	227	2,686
1952.....	25	26	115	139	931	1,067	112	131	188	223	2,957
1953.....	28	14	133	124	959	1,119	111	153	261	219	3,121
1954.....	33	14	149	131	769	1,096	132	86	215	232	2,857
1955.....	47	18	121	147	894	1,177	104	133	203	235	3,079
1956.....	46	17	150	150	1,057	1,245	160	138	269	312	3,544
1957.....	39	14	141	162	1,179	1,841	151	155	253	259	3,694
DEATHS PER 10,000 REGISTERED MOTOR VEHICLES											
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
1948.....	...	4.43	12.58	18.92	17.83	8.94	6.33	5.19	7.19	9.55	10.25
1949.....	...	8.33	12.22	14.27	16.76	9.00	7.51	4.59	8.58	7.65	9.89
1950.....	10.99	4.55	9.92	13.84	15.73	7.70	4.75	4.55	7.02	6.95	8.74
1951.....	12.96	11.84	9.78	14.69	16.34	8.22	5.96	4.32	7.08	7.79	9.36
1952.....	10.58	13.89	10.00	15.47	16.19	8.26	5.96	5.53	6.45	6.94	9.37
1953.....	9.47	6.90	10.26	13.20	15.52	7.96	5.45	5.94	8.19	6.28	9.10
1954.....	9.59	6.71	11.19	13.22	11.41	7.35	6.27	3.22	6.35	6.24	7.84
1955.....	11.82	8.13	8.15	13.78	12.02	7.28	4.67	4.84	5.69	5.74	7.81
1956.....	10.05	8.18	9.88	13.52	12.81	7.28	6.72	4.74	7.06	6.92	8.38
1957.....	8.18	6.61	9.01	13.92	13.38	7.48	6.18	5.17	6.24	5.31	8.30

16.—Motor Vehicle Traffic Accidents, by Province, 1957

Item	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon and N.W.T.	Total
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
Accidents Reported.....	3,405	759	8,689	5,642	56,622	76,302	10,921	11,079	20,829	25,974	448	220,670
Fatal—												
Resulting in death of one or more persons.....	34	13	128	135	742	1,089	110	119	200	224	4	2,798
Non-fatal—												
Resulting in injury to one or more persons.....	615	202	1,887	1,479	14,324	20,433	2,667	2,508	3,368	6,473	80	54,036
Resulting in property damage only.....	2,756	544	6,674	4,028	41,556	54,780	8,144	8,452	17,261	19,277	364	163,836

For footnote, see end of table p. 806.

16.—Motor Vehicle Traffic Accidents, by Province, 1957—concluded

Item	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon and N.W.T.	Total
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
Persons Killed	38	13	141	155	879	1,279	130	143	224	252	4	3,258
Drivers.....	7	9	47	34	..	433	47	48	90	75	3	793 ²
Passengers.....	10	2	36	53	..	417	48	72	51	74	—	763 ²
Pedestrians.....	19	2	52	62	..	363	31	16	54	92	1	692 ²
Bicyclists.....	—	—	3	..	..	32	2	—	23	5	—	..
Motorcyclists and pas- sengers.....	—	—	—	4	..	23	1	1	3	3	—	100 ²
Others.....	2	—	3	2	..	11	1	6	3	3	—	31
Persons Injured	827	296	2,665	2,084	19,502	30,414	3,855	3,985	5,148	9,521	120	78,417
Drivers.....	173	122	896	672	..	10,128	1,251	1,487	1,877	2,856	46	19,508 ²
Passengers.....	312	135	1,058	896	..	13,264	1,831	2,051	2,458	4,941	66	27,012 ²
Pedestrians.....	309	30	599	418	..	5,181	560	315	641	1,183	7	9,243 ²
Bicyclists.....	16	4	68	..	..	1,106	148	78	134	347	1	..
Motorcyclists and pas- sengers.....	4	5	15	85	..	669	61	24	28	179	—	2,972 ²
Others.....	13	—	29	13	..	66	4	30	10	15	—	180 ²
Property Damage Caused \$'000	1,368	297	3,351	2,436	..	36,293	3,778	4,758	8,512	12,054	256	73,103 ²

¹ All reported accidents are those resulting in property damage estimated at \$100 or over.
Quebec.

² Excludes

PART IV.—WATER TRANSPORT*

The Canada Shipping Act.—Legislation regarding all phases of shipping is consolidated in the Canada Shipping Act (R.S.C. 1952, c. 29). Under the Act and its amendments the Parliament of Canada accepts full responsibility for the regulation of Canadian shipping.

Section 1.—Shipping Facilities and Traffic

A special article on the importance of traffic using the Great Lakes-St. Lawrence Seaway appears in the 1956 Year Book, pp. 821-829.

Subsection 1.—Shipping

All waterways including canals and inland lakes and rivers are open on equal terms, except in the case of the coasting trade, to the shipping of all countries of the world so that the commerce of Canada is not dependent entirely upon Canadian shipping. However a large part of the inland and coastal traffic is carried in ships of Canadian registry.

Canadian Registry.—Under Part I of the Canada Shipping Act all ships in excess of 15 tons net register are required to be registered; ships of lower tonnage may be registered voluntarily, otherwise they are required to be operated under a Vessel Licence if powered by a motor of 10 h.p. or more. Sect. 6 of the Act restricts ownership to British subjects or bodies corporate established under and subject to the laws of some part of Her Majesty's Dominions and having their principal place of business in those Dominions.

* Information and statistics dealing with this subject have been supplied as follows: aids to navigation, canals, harbours, administrative services, and marine services by the Department of Transport and the National Harbours Board; the St. Lawrence Seaway by the St. Lawrence Seaway Authority; part of the financial statistics by the Department of Public Works; shipping subsidies by the Director of Subsidized Steamship Services, Canadian Maritime Commission; Panama Canal by the Governor of the Panama Canal Zone; other canal traffic and statistics of shipping by the Public Finance and Transportation Division, Dominion Bureau of Statistics.

Under the British Commonwealth Merchant Shipping Agreement all Commonwealth ships are given the general designation 'British Ship'; and a ship that should be but is not registered is not entitled to the privileges accorded to British ships. Ships in the planning stage or in course of construction may be recorded before registry by a Registrar of Shipping.

1.—Vessels on the Canadian Shipping Registry, by Province, as at Dec. 31, 1955-57

NOTE.—Figures for 1935-54 are given in the corresponding table of previous Year Books beginning with the 1941 edition.

Province or Territory	1955		1956		1957	
	No.	net tons ^a	No.	net tons ^a	No.	net tons
Newfoundland.....	1,094	56,582	892	48,809	866	47,349
Nova Scotia.....	5,026	99,859	5,276	100,338	5,434	101,813
Prince Edward Island.....	320	8,612	352	8,359	407	8,753
New Brunswick.....	1,188	43,110	1,194	42,193	1,287	40,838
Quebec.....	2,016	498,043	2,092	506,562	2,221	499,024
Ontario.....	2,083	537,092	2,147	544,269	2,208	548,067
Manitoba.....	108	12,443	110	12,841	110	13,010
Saskatchewan.....	—	—	—	—	—	—
Alberta.....	7	567	7	567	7	567
British Columbia.....	5,323	422,763	5,560	441,725	5,731	466,840
Yukon Territory.....	16	3,572	16	3,572	16	3,572
Northwest Territories.....	7	306	7	306	7	306
Totals.....	17,188	1,682,949	17,653	1,709,541	18,294	1,730,139

Shipping Traffic.—Complete statistics of shipping traffic, showing all the freight carried by water are not available. However, there is a record of the number and tonnage of ships calling at all ports at which there are customs collectors and of cargoes of vessels trading between Canadian and foreign ports. Commencing with 1957 these shipping statistics have been enlarged to include movement in and out of non-customs ports. Coast-wise cargo has been reported from Jan. 1, 1952. Reports are not made for vessels of less than 15 registered net tons.

2.—Vessels Entered at Canadian Ports,¹ 1948-57

NOTE.—Figures for the years ended Mar. 31, 1929-35 are given in the 1941 Year Book, p. 597; for 1936-44 in the 1948-49 edition, p. 733; and for 1945-47 in the 1956 Year Book, p. 830.

Year	In Foreign Service ²		In Coasting Service		Totals	
	Vessels	Net Tons Registered	Vessels	Net Tons Registered	Vessels	Net Tons Registered
	No.	No.	No.	No.	No.	No.
1948.....	31,138	39,443,055	75,141	52,453,382	106,279	91,896,437
1949.....	30,565	40,088,377	82,012	56,037,003	112,577	96,125,380
1950.....	31,420	42,816,949	84,065	56,066,997	115,485	98,883,946
1951.....	32,304	47,508,342	86,571	60,802,798	118,875	108,311,140
1952.....	33,782	52,156,098	79,722	56,776,504	113,504	108,932,602
1953.....	34,400	56,589,078	88,675	67,417,391	123,075	124,006,469
1954.....	34,079	54,767,687	84,890	64,291,085	118,969	119,058,772
1955.....	34,432	58,018,365	86,010	67,228,840	120,442	125,247,205
1956.....	35,315	63,105,100	88,640	75,220,366	123,955	138,325,466
1957.....	35,352	66,149,552	101,998	73,089,702	137,350	139,239,254

¹ Exclusive of passenger service.

² Sea-going and inland international.

3.—Vessels Entered at each of the Principal Canadian Ports, 1956 and 1957

NOTE.—Details of shipping at all ports in Canada are given in DBS publication, *Shipping Report*.

Year, Province and Port	In Foreign Service ¹		In Coasting Service		Totals	
	Vessels	Net Tons Registered	Vessels	Net Tons Registered	Vessels	Net Tons Registered
	No.	No.	No.	No.	No.	No.
1956						
Newfoundland²	2,225	2,817,252	6,024	3,045,994	8,249	5,863,276
Bell Island.....	197	881,762	80	244,736	277	1,126,498
Botwood.....	80	208,290	186	49,057	266	257,347
Corner Brook.....	142	288,435	509	613,289	651	901,724
Port aux Basques.....	21	8,530	868	456,078	889	464,608
St. John's.....	724	883,930	1,077	531,779	1,801	1,415,709
Prince Edward Island²	57	88,204	231	166,552	288	254,756
Charlottetown.....	26	48,883	142	119,933	168	168,816
Nova Scotia²	4,071	7,658,482	6,575	4,048,517	10,646	11,706,999
Digby.....	106	64,830	338	598,716	442	663,546
Halifax.....	1,285	5,322,826	868	1,008,385	2,151	6,331,211
North Sydney.....	283	52,666	1,845	804,781	2,128	857,447
Sydney.....	142	289,824	752	1,169,857	894	1,459,681
Yarmouth.....	326	660,942	245	28,965	571	689,907
New Brunswick²	4,353	2,097,529	3,318	1,331,184	7,671	3,428,713
Dalhousie.....	48	125,975	43	61,624	91	187,599
Saint John.....	535	1,723,997	842	794,417	1,377	2,518,414
Quebec²	4,016	15,814,435	14,019	13,446,429	18,935	29,260,864
Montreal.....	2,396	6,196,383	4,326	5,965,535	6,722	12,161,898
Port Alfred.....	427	1,372,936	779	426,130	1,206	1,799,066
Quebec.....	803	3,238,415	2,111	2,488,221	2,914	5,726,636
Sept Îles.....	495	3,309,354	780	1,292,633	1,275	4,601,987
Trois Rivières.....	324	835,586	2,654	1,481,948	2,958	2,317,534
Ontario²	7,938	17,225,351	12,602	21,445,140	20,540	38,670,491
Amherstburg.....	51	93,904	78	35,325	129	129,229
Cornwall.....	150	155,819	380	444,290	530	600,109
Port William.....	238	725,873	656	1,919,790	894	2,645,663
Hamilton.....	893	3,261,879	432	451,716	1,325	3,713,595
Kingston.....	339	134,581	736	987,782	1,125	1,122,363
Little Current.....	138	400,843	99	73,914	237	474,757
Michipicoten Harbour.....	55	202,392	94	387,608	149	590,000
Midland.....	63	162,419	305	891,792	368	1,054,211
Port Arthur.....	493	1,882,112	1,063	4,125,378	1,561	6,007,490
Port Colborne.....	580	933,452	601	1,523,535	1,181	2,456,987
Port Credit.....	275	717,078	464	566,416	739	1,283,494
Prescott.....	220	338,658	520	1,130,468	740	1,469,126
Sarnia.....	545	986,439	903	1,813,540	1,448	2,799,979
Sault Ste. Marie.....	574	2,361,513	461	709,451	1,035	3,070,964
Thorold.....	113	255,146	400	632,433	513	887,579
Toronto.....	1,108	1,913,130	1,413	1,867,756	2,521	3,780,886
Windsor.....	436	952,565	425	678,859	861	1,631,424
Manitoba (Churchill)	49	177,127	10	4,701	59	181,828
British Columbia²	11,706	17,226,690	45,861	31,731,849	57,567	48,958,539
Chemainus.....	444	686,185	601	317,733	1,045	1,003,918
Nanaimo.....	327	574,410	5,219	8,323,791	5,546	8,898,201
New Westminster.....	734	1,416,217	3,150	1,572,828	3,884	2,989,045
Ocean Falls.....	42	191,724	655	541,816	697	733,540
Port Alberni.....	185	524,156	782	307,094	967	831,250
Powell River.....	238	271,934	3,102	812,558	3,340	1,084,492
Prince Rupert.....	984	430,993	1,363	607,041	2,347	1,038,034
Vancouver.....	3,643	7,785,844	24,152	14,735,392	27,795	22,521,236
Victoria.....	2,517	4,495,733	4,105	3,494,860	6,622	7,990,593
Grand Totals, 1956	35,315	63,105,100	88,640	75,220,366	123,955	138,325,466

For footnotes, see end of table.

3.—Vessels Entered at each of the Principal Canadian Ports, 1956 and 1957—concluded

Year, Province and Port	In Foreign Service ¹		In Coasting Service		Totals	
	Vessels	Net Tons Registered	Vessels	Net Tons Registered	Vessels	Net Tons Registered
	No.	No.	No.	No.	No.	No.
1957						
Newfoundland²	2,366	2,753,580	8,822	4,606,376	11,188	7,359,956
Bell Island.....	180	855,617	119	309,030	299	1,164,647
Botwood.....	62	188,145	173	51,312	235	289,457
Corner Brook.....	109	257,036	421	450,997	530	708,033
Port aux Basques.....	32	32,139	897	467,441	929	499,580
St. John's.....	814	904,814	858	506,979	1,672	1,411,793
Prince Edward Island²	63	104,905	254	144,875	317	249,780
Charlottetown.....	32	64,347	142	101,023	174	165,370
Nova Scotia²	3,991	7,687,392	5,992	4,160,077	9,983	11,847,469
Digby.....	58	19,451	366	663,805	424	683,256
Halifax.....	1,318	5,575,941	767	869,699	2,085	6,445,640
North Sydney.....	259	39,542	1,588	785,322	1,847	824,864
Sydney.....	142	232,559	762	1,235,435	904	1,517,994
Yarmouth.....	301	658,706	251	26,933	552	685,639
New Brunswick²	3,702	2,089,931	3,038	1,247,917	6,740	3,337,848
Dalhousie.....	56	140,833	5	12,324	61	153,157
Saint John.....	510	1,656,624	748	811,858	1,258	2,468,482
Quebec²	5,025	16,534,243	22,423	17,140,233	27,448	33,674,526
Montreal.....	2,319	6,090,440	5,011	5,291,268	7,330	11,381,708
Port Alfred.....	431	1,287,239	712	519,568	1,143	1,806,807
Quebec.....	781	3,344,772	2,138	2,536,152	2,919	5,880,924
Sept Iles.....	578	3,815,152	1,023	1,382,647	1,601	5,197,799
Trois Rivières.....	330	755,058	2,473	1,351,068	2,803	2,106,126
Ontario²	8,313	17,161,690	13,417	19,448,569	21,730	36,610,259
Clarkson (Amherstburg).....	59	287,850	202	321,358	261	609,208
Cornwall.....	112	118,637	362	463,509	474	582,146
Fort William.....	234	668,731	711	2,074,004	945	2,742,735
Hamilton.....	906	3,330,570	738	810,200	1,644	4,140,770
Kingston.....	165	132,472	909	941,053	1,074	1,073,525
Little Current.....	194	528,569	133	141,632	327	670,201
Michipicoten Harbour.....	69	267,069	90	360,680	159	628,649
Midland.....	65	174,400	283	685,676	348	860,076
Port Arthur.....	339	1,250,771	921	3,179,158	1,260	4,429,929
Port Colborne.....	486	853,378	521	1,148,805	1,007	2,002,183
Port Credit.....	334	495,651	147	157,045	481	652,696
Prescott.....	211	389,726	467	874,589	678	1,264,315
Sarnia.....	477	984,845	874	1,642,488	1,351	2,627,333
Sault Ste. Marie.....	500	2,072,068	432	698,858	932	2,770,926
Thorold.....	124	263,213	409	591,402	533	854,615
Toronto.....	1,127	1,983,627	1,287	1,662,250	2,414	3,645,877
Windsor.....	553	1,144,383	404	552,816	957	1,697,199
Manitoba²	48	193,029	7	3,061	55	196,090
Churchill.....	48	193,029	4	2,189	52	195,218
British Columbia²	11,841	19,624,782	48,135	26,338,544	59,976	45,963,326
Chemainus.....	445	687,104	1,277	427,529	1,722	1,114,633
Nanaimo.....	636	1,258,743	3,585	2,752,498	4,221	4,011,246
New Westminster.....	663	1,602,396	3,251	1,430,667	3,914	2,993,063
Ocean Falls.....	32	149,644	64	619,591	676	769,235
Port Alberni.....	214	584,208	790	332,759	1,004	1,166,967
Powell River.....	207	266,126	2,776	471,722	2,483	737,848
Prince Rupert.....	928	583,738	1,286	588,321	2,214	1,112,059
Vancouver.....	3,864	8,339,888	19,207	7,602,449	23,071	15,942,337
Victoria.....	2,645	4,843,919	4,322	3,092,351	6,967	7,936,270
Grand Totals, 1957	35,352	66,149,552	101,998	73,089,702	137,350	139,239,254

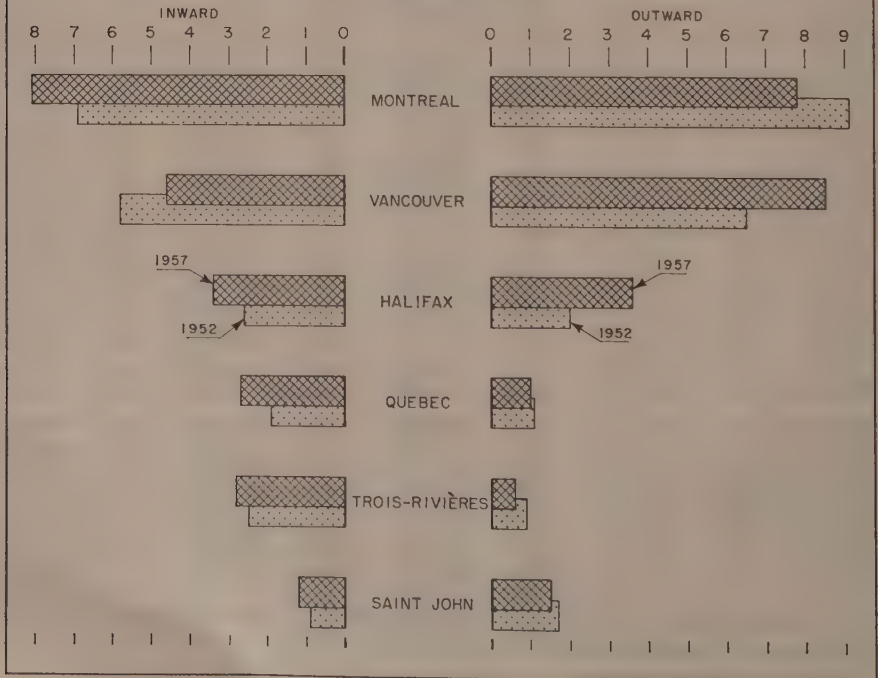
¹ Sea-going and inland international.² Includes small ports not shown separately.

4.—Cargoes at Canadian Ports Loaded or Unloaded from Vessels in Foreign Service, by Province, 1955-57

Province and Year	Loaded	Unloaded	Province, Territory and Year	Loaded	Unloaded
	tons	tons		tons	tons
Newfoundland—			Ontario—		
1955.....	3,194,273	826,047	1955.....	6,359,084	20,944,184
1956.....	3,420,060	739,768	1956.....	7,695,678	24,061,174
1957.....	3,413,802	751,735	1957.....	7,030,697	23,676,856
Prince Edward Island—			Manitoba—		
1955.....	109,272	47,629	1955.....	388,930	4,161
1956.....	88,811	87,531	1956.....	496,200	2,524
1957.....	79,666	84,062	1957.....	489,733	18,811
Nova Scotia—			British Columbia—		
1955.....	5,208,677	2,362,610	1955.....	8,423,651	1,885,991
1956.....	5,962,146	2,848,847	1956.....	9,745,052	2,518,386
1957.....	5,034,594	3,086,808	1957.....	10,805,213	2,348,387
New Brunswick—			Yukon and N.W.T.—		
1955.....	2,010,348	850,620	1955.....	—	—
1956.....	2,004,310	866,031	1956.....	—	—
1957.....	1,851,967	806,971	1957.....	—	7,564
Quebec—			Totals—		
1955.....	13,808,479	8,959,540	1955.....	39,502,714	35,880,782
1956.....	19,960,875	9,430,051	1956.....	49,373,132	40,554,312
1957.....	20,389,821	8,036,908	1957.....	49,095,493	38,818,102

WATER-BORNE CARGO LOADED AND UNLOADED AT EACH OF THE PRINCIPAL PORTS, 1952 AND 1957

(IN MILLIONS OF TONS)



Subsection 2.—Harbours

Water transportation cannot be studied with any degree of completeness without taking into consideration the co-ordination of land and water transportation at many of the ports. Facilities provided to enable interchange movements include the necessary docks and wharves, some for passenger traffic but most of them for freight, warehouses for the handling of general cargo, and special equipment for such bulk freight as lumber, coal, oil and grain. Facilities may include cold storage warehouses, harbour railway and switching connections, grain elevators, coal bunkers, oil storage tanks and, in the chief harbours, dry dock accommodation.

Eight of the principal harbours of Canada are administered by the National Harbours Board. Seven other harbours come under the supervision of the Department of Transport and are administered by commissions that include municipal as well as Federal Government appointees. In addition, there are about 300 public harbours that are under the direct supervision of the Department of Transport. These harbours are administered under rules and regulations approved by the Governor General in Council. Harbour masters have been appointed by the Minister of Transport for 131 of these harbours, their remuneration being paid from fees levied on vessels under the terms of the Canada Shipping Act.

At most ports, in addition to the harbour facilities operated by the National Harbours Board or other operating commission, there are dock and handling facilities owned by private companies such as railway, pulp and paper, oil and sugar industries. At a number of ports there are also dry docks; these are dealt with separately at pp. 814-815.

5.—Facilities of the Six Principal Harbours as at Dec. 31, 1957

NOTE.—The facilities at these ports include those under the control of other agencies as well as those of the National Harbours Board.

Item	Halifax	Saint John	Quebec	Trois Rivières	Montreal	Vancouver
Minimum depth of approach channel..... ft.	51	30	35	35	35	40
Harbour railway.....miles	31	64	23	5	62	75
Piers, wharves, jetties, etc.... No.	88	33	41	19	123	102
Length of berthing..... ft.	35,445	18,710	33,650	8,690	58,954	31,440
Transit-shed floor space.....sq. ft.	1,401,942	1,000,000	659,600	255,840	2,580,408	1,450,600
Cold storage warehouse capacity.....cu. ft.	1,719,000	900,000	500,000	—	2,909,200	3,031,417
Grain Elevators—						
Capacity..... bu.	4,152,500	3,000,000	4,000,000 ¹	7,500,000	15,162,000	21,000,000
Loading rate..... bu. per hr.	90,000	150,000	90,000	40,000	530,000	320,000
Floating crane capacity..... tons	80	— ²	75	—	90	85
Coal dock storage capacity..... "	57,000	—	215,000	300,000	1,415,000	—
Oil tank storage capacity..... gal.	192,584,000	27,646,820	130,826,000	1,410,000	872,384,100	234,589,277

¹ Includes a 3,000,000-bu. grain-storage shed connected with the elevator.
² Two 5-ton locomotive cranes and two electric Luffing cranes capable of lifting 180 (sugar) tons per hour are also available.

National Harbours Board.—The National Harbours Board, a Crown corporation established in 1936, is charged with the administration and operation of the following properties: port facilities such as wharves and piers, transit sheds, grain elevators, cold storage warehouses, terminal railways, etc., at the harbours of Halifax, Saint John, Chicoutimi, Quebec, Trois Rivières, Montreal, Vancouver, and Churchill; grain elevators at Prescott and Port Colborne; and the Jacques Cartier Bridge at Montreal. These facilities represent a capital investment of approximately \$280,000,000. Current operating revenues and expenditures are given in Table 30, pp. 830-831.

Harbour Traffic.—The freight movement through a large port takes a number of different forms. The overseas movement of freight loaded on and unloaded from sea-going vessels frequently constitutes a surprisingly small part of the total. Usually the volume from coasting vessels is larger. There is, as well, the in-transit movement in

vessels that pass through the harbour without loading or unloading and the movement from one point to another within the harbour, which in many ports amounts to a large volume. It is not possible to obtain statistics of the total freight handled at all the ports and harbours of Canada because many of them are small and without the staff necessary to maintain detailed records. However, the National Harbours Board prepares an annual report of the water-borne cargo loaded and unloaded at the eight ports under its control. Six of these are the principal ports of Canada and the cargo handled at each is shown in Table 6. The figures include freight carried by coasting and inland international as well as by sea-going shipping; they include all cargo loaded and unloaded, whether by facilities under the jurisdiction of the Board or at private docks and terminals. Cross-harbour movements, ballast (non-revenue), bunkers, ships' stores, mail and passengers' baggage are not included.

6.—Principal Commodities in Water-Borne Cargo Loaded and Unloaded at Each of the Six Principal Ports, 1956 and 1957

NOTE.—Commodities totalling less than 50,000 tons in 1957 are not listed.

Port and Commodity	1956			1957		
	Inward	Outward	Total	Inward	Outward	Total
	tons	tons	tons	tons	tons	tons
Montreal—						
Grain	2,735,841	3,394,712	6,130,553	2,001,840	1,997,272	3,999,112
Petroleum oil, fuel	349,502	2,036,881	2,386,383	571,675	2,210,328	2,782,003
Coal, bituminous	1,282,387	—	1,282,387	1,378,782	730	1,379,512
Petroleum oil, crude	1,621,571	315,347	1,936,918	1,100,296	64,810	1,165,106
Gasoline	177,772	915,107	1,092,879	217,084	878,772	1,095,856
Sugar, raw	393,942	3	393,945	380,866	—	380,866
Iron or steel in billets, blooms, ingots, pigs, sheet, bars or slabs	14,549	26,882	41,431	143,808	193,126	336,934
Iron or steel, scrap	975	172,893	173,868	—	292,712	292,712
Gypsum, crude	328,197	16,650	344,847	264,405	19,180	283,585
Motor vehicles and parts	41,136	42,215	83,351	233,651	45,192	278,843
Flour, wheat	—	320,206	320,206	96	262,090	262,186
Asbestos and asbestos manufactures	10,034	103,280	113,314	13,247	127,989	141,236
Phosphate rock	137,658	4,424	142,082	128,061	7,535	135,596
Petroleum oil, refined, <i>n.o.p.</i>	56,916	101,280	158,196	28,841	101,575	130,416
Chrome ore	46,495	18,990	65,485	92,928	32,702	125,630
Grain products (mill products except wheat flour)	46	159,265	159,311	—	120,274	120,274
Cement, common or Portland	394,027	154,154	548,181	15,960	97,554	113,514
Iron or steel, structural	145,459	5,471	150,930	98,286	5,561	103,847
Iron or steel manufactures, <i>n.o.p.</i>	63,121	19,672	82,793	71,638	24,538	96,176
Fluorspar	25,950	25,490	51,440	47,555	43,413	90,968
Iron or steel band, bars, <i>n.o.p.</i> , hoop, plates, rods, sheets, skelp, strip and tin plate	167,132	25,199	192,331	64,391	24,894	89,285
Coal, anthracite	104,727	2,833	107,560	83,567	3,183	86,750
Iron ore	46,043	46,043	92,086	45,371	34,171	79,542
Machinery and parts (except agricultural)	27,466	24,553	52,019	43,877	31,350	75,227
Copper, refined, in bars, billets, cakes, cathodes, ingots or slabs	2,734	52,503	55,237	—	74,070	74,070
Iron or steel tubes, pipes and fittings	11,112	294	11,406	68,523	5,308	73,831
Molasses	73,158	18,549	91,707	49,876	22,411	72,287
Lumber (planks, boards and flooring) and square timber	16,623	55,151	71,774	11,710	56,489	68,199
Asphalt and asphalt manufactures	73	31,608	31,681	364	66,842	67,206
Salt	58,420	90	58,510	60,110	61	60,171
Glass and glass manufactures	75,213	5,203	80,416	52,290	2,736	55,026
Copper and copper manufactures, <i>n.o.p.</i>	2,204	10,267	12,471	655	53,276	53,931
Vegetables, dried	1,251	28,506	29,757	2,093	50,944	53,037
Totals, Commodities over 50,000 tons in 1957	8,411,734	8,133,721	16,545,455	7,271,846	6,951,088	14,222,934
Totals, All Commodities	9,284,346	9,144,489	18,428,835	8,071,509	7,789,275	15,860,784

6.—Principal Commodities in Water-Borne Cargo Loaded and Unloaded at Each of the Six Principal Ports, 1956 and 1957—continued

Port and Commodity	1956			1957		
	Inward tons	Outward tons	Total tons	Inward tons	Outward tons	Total tons
Vancouver—						
Grain.....	—	3,594,564	3,594,564	—	4,092,426	4,092,426
Sand and gravel.....	794,011	9,858	803,869	902,107	140,815	1,042,922
Logs, masts, piling, pitprops, poles, posts, spars and ties (railway)...	1,011,445	146,638	1,158,083	880,499	156,689	1,037,188
Petroleum oil, crude.....	—	887,154	887,154	—	1,018,849	1,018,849
Lumber (planks, boards and floor- ing) and square timber.....	743,208	369,401	1,112,609	507,284	393,819	901,103
Petroleum oil, fuel.....	414,756	533,545	948,301	228,854	530,954	759,808
Gasoline.....	36,299	499,917	536,216	18,699	494,042	512,741
Pulpwood.....	—	181,529	181,529	—	235,517	235,517
Wood pulp.....	292,971	33,342	326,313	217,194	9,367	226,561
Cement, common or Portland.....	181,172	20,575	201,747	211,395	11,816	223,211
Flour, wheat.....	130	254,903	255,033	—	221,786	221,787
Motor vehicles and parts.....	113,877	47,549	161,426	150,808	56,111	206,919
Hog fuel.....	—	195,352	195,352	—	198,233	198,233
Iron or steel tubes, pipe and fittings	194,328	54,969	249,297	148,716	3,271	151,987
Paper, newsprint.....	153,454	6,527	159,981	136,597	9,989	146,586
Coal, bituminous.....	26,968	71,034	98,002	25,993	76,214	102,207
Machinery and parts (except agri- cultural).....	32,600	36,089	68,689	41,404	49,511	90,915
Iron or steel band, bars, n.o.p., hoops, plates, rods, sheets, skelp, strips and tin plate.....	102,882	2,766	105,648	83,309	2,965	86,274
Kerosene.....	73,671	67,542	141,213	31,011	45,812	79,823
Sugar, raw.....	100,204	—	100,204	71,411	—	71,411
Salt.....	18,441	7,762	26,203	51,976	3,943	55,919
Chemicals, n.o.p.....	28,935	19,128	48,063	31,397	23,494	54,891
Asbestos and asbestos manufac- tures.....	25,209	10,688	35,897	33,802	19,555	53,357
Ores and concentrates, n.o.p.....	80,310	14,161	94,471	49,448	1,910	51,358
Totals, Commodities over 50,000 tons in 1957.....	4,421,871	7,061,993	11,489,864	3,821,905	7,800,088	11,621,993
Totals, All Commodities.....	5,293,893	8,065,411	13,361,304	4,595,183	8,527,317	13,122,500
Halifax—						
Petroleum oil, crude.....	1,780,032	—	1,780,032	2,370,640	—	2,370,640
Gypsum, crude.....	—	1,290,756	1,290,756	—	1,390,568	1,390,568
Petroleum oil, fuel.....	523,732	869,635	1,393,367	369,589	960,631	1,330,220
Gasoline.....	307,740	264,708	572,448	160,269	300,922	461,191
Grain.....	4,121	609,494	613,615	—	335,345	335,345
Flour, wheat.....	120	98,552	98,672	145	88,032	88,177
Motor vehicles and parts.....	38,923	13,586	52,509	72,227	15,753	87,980
Fish (including shellfish dried, pickled, salted or smoked).....	25,464	60,252	85,716	25,591	60,632	86,223
Totals, Commodities over 50,000 tons in 1957.....	2,680,132	3,206,983	5,887,115	2,998,461	3,151,883	6,150,344
Totals, All Commodities.....	3,134,516	3,716,380	6,850,896	3,399,259	3,585,053	6,984,312
Quebec—						
Petroleum oil, fuel.....	939,760	33,846	973,606	951,907	37,897	989,804
Pulpwood.....	773,353	—	773,353	766,341	20	766,361
Grain.....	321,535	521,309	842,844	232,788	270,867	503,655
Gasoline.....	371,564	11,028	382,592	363,284	14,267	377,551
Coal, bituminous.....	241,067	192	241,259	241,766	432	242,198
Paper, newsprint.....	4,030	138,734	142,764	—	157,331	157,331
Ores and concentrates, n.o.p.....	—	166,415	166,415	—	145,384	145,384
Cement, common or Portland.....	113,981	109,839	223,820	23,405	72,214	95,619
Metal, scrap.....	—	28,724	28,724	1,104	52,412	53,516
Asbestos and asbestos manufac- tures.....	—	161,519	161,519	12	188,443	188,455
Totals, Commodities over 50,000 tons in 1957.....	2,765,290	1,171,606	3,936,896	2,580,607	939,267	3,519,874
Totals, All Commodities.....	2,987,331	1,293,915	4,281,246	2,708,715	1,033,461	3,742,176

6.—Principal Commodities in Water-Borne Cargo Loaded and Unloaded at Each of the Six Principal Ports, 1956 and 1957—concluded

Port and Commodity	1956			1957		
	Inward	Outward	Total	Inward	Outward	Total
	tons	tons	tons	tons	tons	tons
Trois Rivières—						
Pulpwood.....	1,663,547	—	1,663,547	1,699,706	—	1,699,706
Grain.....	454,581	500,562	955,143	312,360	300,960	613,320
Coal, bituminous.....	260,185	—	260,185	416,191	—	416,191
Petroleum oil, fuel.....	302,036	9,426	311,462	265,676	3,808	269,484
Paper, newsprint.....	—	158,878	158,878	—	185,574	185,574
Gasoline.....	63,053	—	63,053	62,584	—	62,584
Totals, Commodities over 50,000 tons in 1957.....	2,743,402	668,866	3,412,268	2,756,517	490,342	3,246,859
Totals, All Commodities....	2,845,098	760,336	3,605,434	2,828,022	589,349	3,417,371
Saint John—						
Grain.....	109	859,551	859,660	2	504,279	504,281
Petroleum oil, fuel.....	430,708	37,343	468,051	428,078	39,023	467,101
Sugar, raw.....	229,340	—	229,340	212,110	—	212,110
Gasoline.....	180,006	25,721	205,727	179,446	32,109	211,555
Paper, newsprint.....	—	103,000	103,000	—	140,994	140,994
Oil cake and oil-cake meal.....	—	100,203	100,203	—	97,276	97,276
Motor vehicles and parts.....	46,060	14,297	60,357	74,859	17,553	92,712
Flour, wheat.....	—	88,368	88,368	—	88,533	88,533
Lumber, (planks, boards and flooring) and square timber.....	7,990	82,226	90,216	625	53,338	53,963
Totals, Commodities over 50,000 tons in 1957.....	891,213	1,310,709	2,201,922	895,120	973,405	1,868,525
Totals, All Commodities....	1,295,858	1,761,393	3,057,251	1,213,411	1,455,452	2,668,863

Dry Docks.—The Department of Public Works of the Federal Government owns five dry docks—one at Kingston, Ont., two at Lauzon, Que., and two at Esquimalt, B.C.—and operates all except the one at Kingston which is under lease to the Canadian Shipbuilding and Engineering Company of Kingston. The old Esquimalt dry dock is temporarily under the administration of the Department of National Defence. Each of the large dry docks at Lauzon and Esquimalt can be divided for use of small vessels; the larger Lauzon dock cost approximately \$4,500,000 and the larger Esquimalt dock approximately \$7,000,000.

7.—Dimensions of Dry Docks Owned by the Federal Government

Location	Length	Width at—			Depth of Water on Sill	Rise of Tide	
		Coping	Bottom	Entrance		Spring	Neap
	ft.	ft.	ft.	ft.	ft.	ft.	ft.
Lauzon, Que., <i>Champlain</i>	1,150.0	120.0	105.0	120.0	40.0 H.W.	18	13.3
Lauzon, Que., <i>Lorne</i>	600.3	100.0	59.5	62.0	25.7 H.W.	18	13.3
Esquimalt, B.C. (old dock).....	450.0 ¹	90.0	41.0	65.0	28.8 H.W. ²	7 to 10	3 to 8
Esquimalt, B.C.....	1,173.0	149.0	126.0	135.0	40.0 H.W.	7 to 10	3 to 8
Kingston, Ont. ³	370.0	55.0	47.0	55.0	16.0 L.W.	—	—

¹ Face of caisson to vertical face at head, 481.0 ft.; length of pad on which keel blocks rest, 403.5 ft.
 keel blocks at H.W. 10 ft., tide 26.1 ft.

² Over

³ Under lease to Canadian Shipbuilding and Engineering Company,

Kingston.

**8.—Dimensions and Cost of Dry Docks Subsidized under the Dry Docks
Subsidies Act 1910**

Location	Length	Width	Depth Over Sill	Total Cost	Subsidy
	ft.	ft.	ft.	\$	
Collingwood No. 1, Ont.	518.3	56.0	14	190,783	1
Collingwood No. 2, Ont. ²	412.0	95.0	16	339,152	1
Port Arthur, Ont.	708.0 ³	77.5	16	1,258,050	1
Montreal, Que. (floating dock), Duke of Connaught.....	601.0	98.0	38	3,000,000	1
Saint John, N.B.	1,157.8	131.5	40.3	5,500,000	4½ p.c. for 35 years
North Vancouver, B.C. (floating dock).....	556.5	98.0	28 ⁴	2,500,000	4½ p.c. for 35 years

¹ Subsidy payments have been completed. ² Now converted to slip. ³ Position of caisson may be altered to provide a maximum working length of 720 ft. ⁴ Over sill (H.W.).

Subsection 3.—Canals

The canals and canalized waters of Canada under the jurisdiction of the Department of Transport comprise a series of waterways providing navigation for 1,875 miles inland from salt water. The canals included under the two classifications—main or primary canals and subsidiary or secondary canals—are listed in Table 9 with their locations, lengths and lock complement. In addition to these, the federal Department of Public Works administers the St. Andrews Lock (length, width and draught, respectively, 215, 45 and 17 feet) on the Red River at Selkirk, Man., and the lock at Poupore, Que. A few small locks are operated by provincial authorities.

During 1957, 37,230,349 tons of freight and 29,436 vessels passed through the canals as compared with 40,016,565 tons of freight and 32,865 vessels during 1956. In addition to freight and passenger vessels, thousands of pleasure craft are locked through the canals. Vessels locking at Sault Ste. Marie during 1957 carried 96,360 passengers as compared with 121,151 in 1956.

Revenue from canals during the year ended Mar. 31, 1958, amounted to \$1,984,717, of which \$1,444,296 was derived from rentals for hydraulic and land privileges and wharfage. In the previous fiscal year the total revenue was \$1,790,202 with rentals and wharfage amounting to \$1,349,989.

**9.—Lengths of Channels and Dimensions of Locks under the Control of the
Department of Transport, as at July 1, 1958**

Name	Location	Length of Channel	Locks			
			No.	Minimum Dimensions		
				Length	Width	Depth
		miles		ft.	ft.	ft.
Main Route Canals						
St. Lawrence and Great Lakes—						
Lachine.....	Montreal to Lachine.....	8.74	5	270	45	14
Soulanges.....	Cascades Point to Coteau Landing.....	14.67	5	280	46	14
Cornwall.....	Cornwall to closure dyke.....	3.50	4	270	43.67	14
Iroquois.....	Iroquois Point.....	1.14	1	860	80	27
Welland Ship.....	Port Weller, Lake Ontario, to Port Colborne, Lake Erie.....	27.60	8	859	80	23.5
Sault Ste. Marie.....	St. Mary's Rapids, Sault Ste. Marie.....	1.38	1	900	60	18.25

9.—Lengths of Channels and Dimensions of Locks under the Control of the Department of Transport, as at July 1, 1958—concluded

Name	Location	Length of Channel	Locks			
			No.	Minimum Dimensions		
				Length	Width	Depth
		miles		ft.	ft.	ft.
Subsidiary Canals or Branches						
Canso Canal.....	Canso Causeway, N.S.	0.70	1	820	80	28
Atlantic Ocean to Bras d'Or Lakes— St. Peters.....	St. Peters Bay to Bras d'Or Lakes, Cape Breton, N.S.	0.50	1	300	47.4	17
Richelieu River— St. Ours.....	St. Ours, Que.	0.12	1	339	45	12
Chambly.....	Chambly to St. John, Que.	11.78	9	120.5	23.25	6.5
Ottawa and Rideau Rivers— Ste. Anne.....	Junction of St. Lawrence and Ottawa Rivers.....	0.12	1	200	45	9
Carillon.....	Carillon Rapids, Ottawa River.....	0.94	2	200	45	9
Grenville.....	Long Sault Rapids, Ottawa River.....	5.94	5	200	45	9
Rideau.....	Ottawa to Kingston.....	123.53	47	134	33	5.5
	Rideau Lake to Perth (Tay Branch).....	6.82	2	134	33	5.5
Lake Ontario to Georgian Bay— Trent.....	Trenton to Peterborough lock, Peterborough.....	88.74	18	175	33	8
	Peterborough lock to Swift Rapids.....	135.71	24	134	33	6
	Swift Rapids to Big Chute.....	8.00	—	—	—	4
	Big Chute to Port Severn.....	8.11	1	100	25	6
	Sturgeon Lake to Lindsay (Scugog Branch).....	10.00	1	142	33	6
	Lindsay to Port Perry (Scugog Branch).....	25.00	—	—	—	4.5
Murray.....	Isthmus of Murray, Bay of Quinte.....	7.53	—	—	—	8.5 ²
	Total.....	490.57				

¹ Notice must be given by vessels of more than 6-foot draught.
of 243 feet.

² With Lake Ontario at elevation

10.—Traffic through Canadian Canals, by Nationality of Vessel, Navigation Seasons 1948-57

NOTE.—Figures include duplications where vessels use two or more canals. Figures from 1886 are available in the corresponding table of previous Year Books beginning with the 1902 edition.

Navigation Season	Canadian		United States		United Kingdom		Other	
	Vessels	Registered Tonnage	Vessels	Registered Tonnage	Vessels	Registered Tonnage	Vessels	Registered Tonnage
	No.	No.	No.	No.	No.	No.	No.	No.
1948.....	19,859	19,723,788	2,455	3,999,472	1	1	329	220,067
1949.....	21,724	20,773,831	2,159	3,011,023	1	1	336	249,015
1950.....	21,179	21,989,263	2,785	3,175,566	1	1	456	338,636
1951.....	22,141	22,951,468	2,993	3,987,700	1	1	414	309,972
1952.....	22,565	25,608,373	3,081	3,686,781	1	1	676	514,224
1953.....	23,378	27,845,139	2,984	3,777,571	1	1	1,201	919,875
1954.....	21,066	25,303,262	3,145	3,245,555	1	1	1,081	893,778
1955.....	22,758	27,709,232	3,950	3,798,290	200	132,858	1,264	1,044,774
1956.....	27,473	31,019,138	3,776	3,675,511	267	186,978	1,349	1,141,259
1957.....	24,191	27,726,358	3,324	3,802,909	332	221,254	1,589	1,364,205

¹ Included with Canadian vessels.

11.—Freight Traffic through Canadian Canals by Origin of Cargo, Navigation Seasons 1918-57

NOTE.—Figures include duplications where cargoes pass through two or more canals. Figures from 1886 are available in the corresponding table of previous Year Books beginning with the 1902 edition.

Navigation Season	Canada		United States		United Kingdom		Other		Total
	Tons	P.C. of Total	Tons	P.C. of Total	Tons	P.C. of Total	Tons	P.C. of Total	Tons
1948.....	11,169,714	47.4	12,389,599	52.6	1	1	1	1	23,559,313
1949.....	14,800,509	60.7	9,573,243	39.3	1	1	1	1	24,373,752
1950.....	15,138,009	55.2	12,301,067	44.8	1	1	1	1	27,439,076
1951.....	16,004,284	54.6	13,320,750	45.4	1	1	1	1	29,325,034
1952.....	17,245,051	55.0	14,109,088	45.0	1	1	1	1	31,354,139
1953.....	18,464,479	55.3	14,908,585	44.7	1	1	1	1	33,373,064
1954.....	17,237,542	57.3	12,533,159	42.7	1	1	1	1	30,070,701
1955.....	20,002,540	57.4	14,177,878	40.7	120,827	0.3	572,953	1.6	34,874,198
1956.....	24,698,001	61.7	14,457,217	36.1	106,448	0.3	754,899	1.9	40,016,565
1957.....	21,459,552	57.6	15,021,930	40.3	151,550	0.4	597,317	1.6	37,230,349

¹ Included with United States.

12.—Tonnage of Products Carried by Canal, classified by Commodity Group, Navigation Season 1957

NOTE.—Figures include duplications where cargoes pass through two or more canals.

Canal	Agricultural Products	Animal Products	Manufactures and Miscellaneous	Forest Products	Mineral Products	Total
	tons	tons	tons	tons	tons	tons
Sault Ste. Marie.....	705,385	26	838,252	2,100	238,937	1,784,700
Welland Ship.....	5,053,914	23,735	4,271,594	561,216	12,462,079	22,372,538
St. Lawrence River.....	3,522,592	15,932	3,237,210	522,508	4,893,250	12,191,492
Richelieu River.....	—	—	109,213	—	3,153	112,366
St. Peters.....	333	1,425	468	1,875	540	4,641
Murray.....	—	—	190	—	600	790
Ottawa River.....	—	—	240	—	356,400	356,640
Rideau.....	—	—	39	195	5,610	5,844
Trent.....	—	—	74	—	—	74
St. Andrews.....	253	1,931	2,662	622	1	5,469
Canso.....	18,310	13,031	277,237	22,981	64,236	395,795
Totals.....	9,390,787	56,080	8,737,179	1,111,497	18,021,806	37,230,349

13.—Freight Traffic through Canadian Canals, by Direction and Origin, Navigation Season 1957 with Totals for 1954-57

NOTE.—Figures include duplications where cargoes pass through two or more canals.

Canal	From Canadian to Canadian Ports		From Canadian to United States Ports ¹		From United States to United States Ports ¹		From United States ¹ to Canadian Ports	
	Up	Down	Up	Down	Up	Down	Up	Down
	tons	tons	tons	tons	tons	tons	tons	tons
Sault Ste. Marie.....	457,231	890,953	415	261,313	57,609	2,656	111,395	3,128
Welland Ship.....	1,103,876	4,790,463	3,391,813	94,572	611,661	1,295,918	33,322	11,050,913
St. Lawrence River.....	1,931,073	4,593,611	2,775,122	147,804	210,876	333,659	171,726	2,027,621
Richelieu River.....	58,840	8,251	26,589	—	—	—	—	18,686
St. Peters.....	1,389	3,200	—	52	—	—	—	—
Murray.....	600	190	—	—	—	—	—	—
Ottawa River.....	180	356,460	—	—	—	—	—	—
Rideau.....	154	5,690	—	—	—	—	—	—
Trent.....	11	63	—	—	—	—	—	—
St. Andrews.....	2,552	2,617	—	—	—	—	—	—
Canso.....	170,222	109,868	11,350	50,049	6,315	1,970	46,021	—
Totals.....	3,726,428	10,761,366	6,205,289	553,790	886,461	1,634,203	362,464	13,100,348

For footnote, see end of table, p. 818.

13.—Freight Traffic through Canadian Canals, by Direction and Origin, Navigation Season 1957 with Totals for 1954-57—concluded

Canal	Traffic by Direction		Origins of Cargo		Total Cargo			
	Up	Down	Canada	United States ¹	1957	1956	1955	1954
	tons	tons	tons	tons	tons	tons	tons	tons
Sault Ste. Marie.....	626,650	1,158,050	1,620,438	164,262	1,784,700	2,989,278	2,201,075	2,607,968
Welland Ship.....	5,140,672	17,231,866	9,738,698	12,633,840	22,372,538	23,066,261	20,893,572	17,514,258
St. Lawrence River.....	5,088,797	7,102,695	9,291,789	2,899,702	12,191,492	13,499,698	11,446,620	9,637,034
Richelieu River.....	85,429	26,937	67,091	45,275	112,366	98,963	97,130	109,438
St. Peters.....	1,389	3,252	4,589	52	4,641	1,700	6,783	3,231
Murray.....	600	190	790	—	790	—	667	272
Ottawa River.....	180	356,460	356,640	—	356,640	283,500	206,525	190,810
Rideau.....	154	5,690	5,844	—	5,844	399	413	1,490
Trent.....	11	63	74	—	74	289	102	170
St. Andrews.....	2,852	2,617	5,469	—	5,469	8,082	8,112	6,030
Canso.....	233,908	161,887	180,090	215,705	395,795	68,395	13,199	—
Totals.....	11,180,642	26,049,707	21,271,512	15,958,837	37,230,349	40,016,565	34,874,198	30,070,701

¹ Figures for the United States include small amounts of traffic from other foreign countries.

The figures in Tables 12 and 13 include duplications where the same freight passes through two or more canals, but in Table 14 duplications in the traffic passing through the St. Lawrence and Welland Ship Canals and the Canadian lock at Sault Ste. Marie have been eliminated wherever possible.

Grain trans-shipped at Georgian Bay, Lake Erie, or other ports above Montreal is treated as new cargo and as most of this grain has passed through either the Canadian or United States locks at Sault Ste. Marie there are still duplications in the data because of this treatment. These duplications cannot be avoided when net totals for the Canadian canals are computed because it is impossible to ascertain which lock at Sault Ste. Marie was used by the grain reloaded at Port Colborne, Ont., or other trans-shipping port.

14.—St. Lawrence-Great Lakes Traffic Using St. Lawrence, Welland Ship and Sault Ste. Marie Canals, 1957

Canals Used	Up-bound Freight	Down-bound Freight	Total
	tons	tons	tons
Traffic using Canadian St. Lawrence-Great Lakes System.....	7,320,875	21,593,051	28,913,926
St. Lawrence only.....	1,715,246	3,513,526	5,228,772
St. Lawrence and Welland Ship.....	3,299,462	3,184,752	6,484,214
St. Lawrence, Welland Ship and Sault Ste. Marie.....	63,671	55,157	118,828
Welland Ship only.....	1,679,517	13,736,723	15,416,240
Welland Ship and Sault Ste. Marie.....	98,022	255,234	353,256
Sault Ste. Marie only.....	464,957	847,659	1,312,616
Traffic using United States Locks at Sault Ste. Marie only.....	12,378,632	97,628,898	110,007,530
Totals.....	19,699,507	119,221,949	138,921,456

Traffic through the Sault Ste. Marie canals, Canadian and American, has been approximately twice as heavy as the traffic through the Panama Canal during the latest ten years for which records are available. Canal traffic has varied from 20,484,000 tons

in 1932, which was less than the Panama traffic, to 111,792,230 tons in 1957. The dominant traffic from a tonnage aspect is iron ore which fluctuated from a low of 3,607,000 tons in 1932 to a high of 98,657,591 tons in 1953. In 1955 this tonnage amounted to 89,396,865, but dropped to 86,509,714 in 1957.

Soft coal has usually been second in volume to iron ore, increasing from 8,676,297 tons during the 1949 season to 13,301,048 tons in 1950; volume in succeeding years amounted to 7,397,623 tons in 1954, 9,053,769 tons in 1955, 10,238,048 tons in 1956 and 8,970,640 tons in 1957.

Although wheat ranks third in tonnage, its value over the past quarter-century has been greater generally than that of either iron ore or coal. Other grains have been about one-quarter to one-fifth of the wheat tonnage and a smaller ratio of the value.

The Panama Canal.—The Panama Canal was opened to commercial traffic on Aug. 15, 1914, and has since been a waterway of great importance to the ports of British Columbia, from which vessels leave direct for United Kingdom and other European ports throughout the year. As an alternative route to that of the transcontinental railway lines, this water passage is of vital importance in the solution of the bulk transportation problems of the Continent. During World War I the great expectations based upon the opening of the Canal were not realized because of the scarcity of shipping. However, with the postwar decline in ocean freight rates, an increase in traffic between Canada's Pacific ports and Europe took place and, while the proportion carried in vessels of Canadian registry was comparatively small, the cargo tonnage nevertheless assumed considerable proportions. During World War II the volume of Canadian traffic through the Canal was again reduced but has since increased considerably. A distinctive feature of this traffic is that most of the tonnage westbound is destined for Canadian West Coast ports, while only a small percentage of the freight originating on the West Coast is unloaded in Eastern Canada.

15.—Traffic to and from the East and West Coasts of Canada via the Panama Canal, Years Ended June 30, 1949-53

NOTE.—Figures from 1921 are given in the corresponding table of previous Year Books beginning with the 1938 edition.

Year	Originating on—		Destined for—		Year	Originating on—		Destined for—	
	West Coast	East Coast	West Coast	East Coast		West Coast	East Coast	West Coast	East Coast
	long tons	long tons	long tons	long tons		long tons	long tons	long tons	long tons
1949.....	2,298,492	188,506	154,524	145,477	1954.....	4,153,577	398,778	402,335	230,295
1950.....	2,707,047	185,076	226,673	143,395	1955.....	4,109,456	301,450	427,825	303,585
1951.....	2,910,246	240,904	372,534	142,741	1956.....	3,636,245	362,740	601,345	313,440
1952.....	3,644,888	287,872	281,960	114,319	1957.....	3,501,015	470,115	760,142	194,225
1953.....	3,560,925	532,810	341,548	219,567	1958.....	4,577,256	334,385	632,385	210,485

16.—Commercial Traffic through the Panama Canal, Years Ended June 30, 1949-58

NOTE.—Figures from 1915 are given in the corresponding table of previous Year Books beginning with the 1938 edition.

Year	Atlantic to Pacific		Pacific to Atlantic		Totals	
	Vessels	Cargo Tonnage	Vessels	Cargo Tonnage	Vessels	Cargo Tonnage
	No.	long tons	No.	long tons	No.	long tons
1949.....	2,387	9,899,088	2,406	15,406,070	4,793	25,305,158
1950.....	2,689	9,483,863	2,759	19,388,430	5,448	28,872,293
1951.....	2,784	11,132,472	2,809	18,940,550	5,593	30,073,022
1952.....	3,184	15,128,995	3,340	18,481,514	6,524	33,610,509
1953.....	3,674	17,329,066	3,736	18,766,283	7,410	36,095,349
1954.....	3,852	18,377,724	3,932	20,717,343	7,784	39,095,067
1955.....	4,002	18,419,006	3,995	22,227,295	7,997	40,646,301
1956.....	4,133	21,286,036	4,076	23,833,006	8,209	45,119,042
1957.....	4,495	25,429,843	4,084	24,272,357	8,579	49,702,200
1958.....	4,599	22,843,301	4,588	25,281,508	9,187	48,124,809

Subsection 4.—Marine Services of the Federal Government

The services covered in this Subsection deal with aids to navigation, including the maintenance of the St. Lawrence River Ship Channel, steamship inspection, pilotage service, sea-faring personnel and the operations of the Canadian National (West Indies) Steamships Limited.

Aids to Navigation.—Included under aids to navigation are the lighthouses and the whole system of marine danger signals on the East and West Coasts of Canada, on Hudson Bay and Strait, the St. Lawrence River and Gulf, the Mackenzie River and Arctic passages, the inland rivers and lakes, and at the entrances to harbours—a very extensive system designed to provide safe navigation in all Canadian waters. In addition, a pilotage service is maintained in waters where navigation is difficult; this service is described at p. 822. A further aid to safe navigation is found in the chains of radio signal and direction-finding stations described under Radio Services in Chapter XIX, pp. 859-860. Lists of aids to navigation, with the exception of very minor ones, are published by the Department of Transport.

17.—Marine Danger Signals Maintained in Canada, Years Ended Mar. 31, 1957 and 1958

NOTE.—In addition to the aids to navigation listed, approximately 9,300 unlighted buoys, balises, dolphins and beacons are maintained. Lists of marine danger signals maintained from 1929 are given in the corresponding table of previous Year Books beginning with the 1941 edition.

Type of Signal	1957	1958	Type of Signal	1957	1958
	No.	No.		No.	No.
Lights.....	3,082	3,162	Hand fog horns.....	122	125
Lightships.....	4	4	Hand fog bells.....	12	12
Light-keepers.....	1,014	924	Lighted and combination lighted whistling and bell buoys.....	1,020	932
Fog whistles.....	18	21	Whistling buoys.....	33	31
Sirens.....	4	4	Bell buoys.....	113	112
Diaphones.....	246	247	Fog guns and bombs.....	7	6
Fog bells.....	47	49	Fog alarm stations only.....	17	17

Navigable waters have been improved greatly by dredging in channels and harbours, by the removal of obstructions, and by the building of remedial works to maintain or control water levels. Incidental to these developments of navigable waters are works to guard shorelines and prevent erosion, and for the control of roads and bridges that cross navigable channels. Ice-breaking operations are carried on at the beginning and at the end of winter to prolong the season of navigation in important waters that freeze over—particularly in connection with sea-going shipping from Montreal—and to prevent flood conditions during the spring ice break-up.

St. Lawrence River Ship Channel.—This channel extends from about 40 miles below Quebec City to the foot of Lachine Canal at Montreal, a distance of 200 miles. About 113 miles of this distance is dredged channel.

Above Quebec the channel has a limiting depth of 35 feet at extreme low water and a minimum width of 550 feet, with additional width up to 1,500 feet at all curves and difficult points, and additional anchorage and turning areas. This section comprises about 100 miles of dredged channel. Below Quebec the limiting depth of dredged channel, about 13 miles in length, is 30 feet at low tide, with a width of 1,000 feet. An average tidal range of 15 feet in this area provides ample depth for any vessel using the St. Lawrence route. Above Quebec maintenance requirements as a result of silting in this dredged channel are relatively minor but below the city silting is more pronounced because of tidal action.

The ship channel is well defined by buoys and the centre marked by range lights, permitting uninterrupted day and night navigation throughout the open season from about mid-April to early December. The movements of all shipping, weather and ice conditions and obstructions to traffic throughout the St. Lawrence waterway from Fame Point, Que., to Kingston, Ont., are recorded and made available to all concerned through a series of reporting stations known as the Marine Reporting Service.

A fleet of ice-breaking vessels is maintained to facilitate the movement of shipping between Montreal and the sea during the opening and closing of navigation, and to alleviate flood conditions in low-lying areas.

18.—Seasons of Open Navigation on the St. Lawrence Ship Channel, 1939-58

NOTE.—Figures from 1882 are given in the corresponding table of previous Year Books beginning with the 1934-35 edition.

Year	Channel Open, Quebec to Montreal ¹	First Arrival from Sea, Montreal Harbour	Last Departure for Sea, Montreal Harbour	Year	Channel Open, Quebec to Montreal ¹	First Arrival from Sea, Montreal Harbour	Last Departure for Sea, Montreal Harbour
1939.....	Apr. 29	Apr. 29	Dec. 12	1949.....	Apr. 7	Apr. 7	Dec. 15
1940.....	" 23	" 24	" 5	1950.....	" 18	" 18	" 7
1941.....	" 14	" 19	" 17	1951.....	" 11	" 13	" 13
1942.....	" 17	May 2	" 16	1952.....	" 12	" 13	" 10
1943.....	" 29	" 24	" 13	1953.....	Mar. 30	" 2	" 21
1944.....	" 20	Apr. 21	" 9	1954.....	Apr. 15	Mar. 30	" 15
1945.....	" 1	" 9	" 3	1955.....	" 17	Apr. 5	" 15
1946.....	" 1	" 12	" 18	1956.....	" 13	" 2	" 17
1947.....	" 16	" 19	" 5	1957.....	" 8	" 4	" 18
1948.....	" 10	" 19	" 10	1958.....	" 6	Mar. 30	" 23

¹ "Channel Open" means the route can be navigated although there may be floating ice in the river.

Steamship Inspection.—The Steamship Inspection Service, provided for under Part VII of the Canada Shipping Act, is responsible for the administration and carrying out of the provisions of the Act respecting the periodic inspection of power-driven ships and the issue of inspection certificates; the assignment of load lines; the conditions under which dangerous goods may be carried in ships; the protection against accident of workers employed in loading and unloading ships; the prevention from pollution of Canadian territorial and inland waters by oil from ships; and also for the administration and carrying out of the provisions relating to the certification and employment of marine engineers. The Service has a headquarters staff at Ottawa and staffs of inspectors at the principal ocean and inland ports.

The Board of Steamship Inspection decides on questions arising out of the administration of the Act and takes care of the interests of the Federal Government in schools for marine engineers.

19.—Statistics of Steamship Inspections, by Inspection Division, Years Ended Mar. 31, 1957 and 1958

Division	Vessels Registered or Owned in Canada				Vessels Registered or Owned Elsewhere			
	1957		1958		1957		1958	
	No.	gross tonnage	No.	gross tonnage	No.	gross tonnage	No.	gross tonnage
St. John's, Nfld.	211	35,734	209	49,452	2	287	—	—
North Sydney, N.S.	39	5,923	55	25,035	2	657	2	657
Halifax, N.S.	194	109,300	226	155,771	—	—	—	—
Saint John, N.B.	26	29,382	51	36,614	—	—	1	2,338
Quebec, Que.	115	85,715	134	72,880	7	21,438	2	7,526
Sorel, Que.	73	58,119	73	45,730	—	—	—	—
Montreal, Que.	96	195,168	100	162,432	1	2,057	2	5,972
Kingston, Ont.	65	93,950	96	105,068	—	—	—	—
Toronto, Ont.	242	337,877	140	264,298	—	—	8	1,995
St. Catharines, Ont.	46	218,202	58	105,592	—	—	—	—
Collingwood, Ont.	47	55,310	43	72,158	1	1,008	—	—
Midland, Ont.	75	206,178	70	106,141	—	—	—	—
Port Arthur, Ont.	52	46,562	46	38,884	—	—	—	—
Vancouver, B.C.	439	105,116	413	87,671	4	29,112	9	35,187
Victoria, B.C.	63	53,676	64	59,658	—	—	—	—
Totals	1,783	1,636,212	1,778	1,386,384	17	54,559	21	53,675

Pilotage.—Pilotage service functions under the provisions of Part VI of the Canada Shipping Act. Wherever a pilotage district has been created by the Governor in Council, qualified pilots are licensed by the pilotage authority of the district. There are in Canada 42 pilotage districts in nine of which the Minister of Transport is the pilotage authority (see Table 20); in each of the other districts the authority is a local body appointed by the Governor in Council.

20.—Pilotage Service, by Pilotage District, Years Ended Mar. 31, 1956 and 1957

District	1956		1957	
	Ships	Net Registered Tonnage	Ships	Net Registered Tonnage
	No.		No.	
Bras d'Or Lake, N.S.	96	257,535	174	461,856
Sydney, N.S.	2,396	4,152,753	2,394	4,154,763
Halifax, N.S.	3,416	13,689,367	3,047	12,483,470
Saint John, N.B.	1,445	4,048,713	1,275	3,762,258
Quebec, Que.	5,379	21,815,061	5,951	18,538,779
Montreal, Que.	10,632	24,895,502	10,616	24,556,354
St. Lawrence-Kingston-Ottawa, Ont.	—	—	3,228	—
Churchill, Man.	66	160,287	106	193,879
British Columbia	4,764	20,832,690	5,188	19,263,243
Totals	28,194	89,351,908	31,979	83,411,602

In addition there are 21 districts in Newfoundland under the local pilotage authority. These districts continued to be administered under Newfoundland statutes after union with Canada (Mar. 31, 1949). Part VI of the Canada Shipping Act with respect to pilotage has not been proclaimed in force in Newfoundland.

Seamen Engaged and Discharged.—Seamen engaged and discharged at Canadian ports under the provisions of the Canada Shipping Act during the years ended Mar. 31, 1948-57 are shown in Table 21.

21.—Seamen Engaged and Discharged at Canadian Ports, Years Ended Mar. 31, 1948-57

NOTE.—Figures from 1918 are given in the corresponding table of previous Year Books beginning with the 1941 edition.

Year	Seamen Engaged	Seamen Discharged	Year	Seamen Engaged	Seamen Discharged
	No.	No.		No.	No.
1948.....	59,768	60,793	1953.....	42,723	36,610
1949.....	50,379	49,544	1954.....	42,837	43,142
1950.....	43,677	43,194	1955.....	43,292	41,030
1951.....	40,241	40,535	1956.....	44,142	44,333
1952.....	43,724	40,664	1957.....	39,717	40,347

¹ Newfoundland included from Apr. 1, 1949.

Canadian National (West Indies) Steamships Limited.—In conformity with the Canada-West Indies Trade Agreement of 1926 (16-17 Geo. V, c. 16) the Federal Government has provided direct steamship services to the West Indies through the medium of Canadian National (West Indies) Steamships Limited.

The eight vessels owned by the Company ceased active operations on July 4, 1957, as a result of a strike called by the Seafarers International Union. Prolonged negotiations failed to end the strike and it was decided to sell the fleet and wind up the affairs of the Company. The vessels were sold in August 1958 to the Banco Cubano del Comercio Exterior of Havana, Cuba.

22.—Financial Statistics of Canadian National (West Indies) Steamships Limited, 1948-57

NOTE.—Figures for the years 1929-38 are given in the 1942 Year Book, p. 620; for 1939-44 in the 1950 edition, p. 777; and for 1945-47 in the 1956 Year Book, p. 844.

Year	Operating Revenues	Operating Expenses	Operating Profit or Loss	Other Income (net)	Interest	Income Surplus or Deficit
	\$	\$	\$	\$	\$	\$
1948.....	7,964,720	7,320,615	+644,105	85,733	563,794	+166,044
1949.....	6,595,007	6,582,608	+12,399	88,064	560,961	-460,498
1950.....	5,124,200	5,725,632	-601,432	133,127	560,462	-1,028,767
1951.....	6,808,478	6,840,054	-31,576	130,368	565,784	-466,992
1952.....	7,449,247	7,122,971	+326,276	145,065	476,250	-3,909
1953.....	4,509,342	5,331,788	-822,446	170,866	475,250	-1,126,830
1954.....	5,105,082	5,424,983	-319,901	166,741	475,250	-628,410
1955.....	5,946,605	5,995,684	-49,079	77,780	124,665	-95,964
1956.....	6,125,470	6,052,570	+72,900	—	49,619	+23,281
1957.....	4,012,162	4,617,526	-605,364	—	43,486	-648,850

Subsection 5.—The St. Lawrence Seaway

The St. Lawrence Seaway became a reality with the commencement of the navigation season in April of 1959. Her Majesty Queen Elizabeth II, together with President Dwight D. Eisenhower of the United States of America, officiated at the formal inaugural ceremonies opening the new waterway on June 26, 1959.

The St. Lawrence Seaway, in its broadest sense, provides a deep waterway extending some 2,200 miles from the Atlantic Ocean to the Head of the Great Lakes. The waters of Lake Superior, seeking sea level, drop 602 feet through the lesser Great Lakes and the St. Lawrence River on their way from the heart of the Continent to the Atlantic Ocean. The greater part of this drop takes place in the Niagara River—now overcome by the 27-mile-long Welland Ship Canal with its eight locks—and in the St. Lawrence River.

Before construction of the Seaway conditions for navigation were as follows: (1) from the Gulf of St. Lawrence to Montreal, a distance of 1,000 miles, controlling navigation channels were 35 feet in depth; (2) from Montreal to Lake Ontario, a distance of 180 miles,

controlling navigation channels were 14 feet in depth; (3) from Lake Ontario to Lake Erie, a distance of 27 miles, controlling navigation channels were about 25 feet deep; and (4) from Lake Erie to the Head of the Lakes, a distance of 970 miles, controlling navigation channels were approximately 25 feet downbound and about 21 feet upbound. Thus, between the highly developed Great Lakes section, with a minimum channel of some 21 feet, and the ocean port facilities at Montreal, lay 114 miles of rapid-studded St. Lawrence River, navigable only through a chain of outmoded 14-foot canals capable of handling ships with a maximum capacity of 3,000 tons. The Seaway project was designed to break this bottleneck and extend 27-foot facilities from the Great Lakes to the sea. Seven new locks were required for the purpose—five built by the St. Lawrence Seaway Authority of Canada and two by the Saint Lawrence Seaway Development Corporation of the United States. These replace 21 inadequate locks between Montreal and Lake Ontario.

Also, because Canadian Government regulations require that all bridges spanning waters navigable by ocean-going ships have a minimum overhead clearance of 120 feet, extensive modifications are being made to seven bridges between Montreal and Lake St. Francis. In addition, a new high-level suspension bridge has been constructed across the south channel of the St. Lawrence River at Cornwall Island—the substructure by Canada's St. Lawrence Seaway Authority and the superstructure by the United States Seaway entity.

Associated with the St. Lawrence Seaway navigation project is the construction of a large hydro-electric power development in the International Rapids Section of the St. Lawrence River between Cornwall and Prescott. In July 1958, a 38,000-acre power pool was formed by means of control dams and by 1960 an international powerhouse will be generating about 2,200,000 h.p. of electric energy to be shared equally by Canada and the United States. Eleven of the designated 18 units began operation in the latter part of 1958.

After four years of sustained activity, work on the new waterway has been concluded, although some surface construction is not quite completed. On land and water, from the harbour of Montreal to the upper end of the Welland Ship Canal, a distance of 400 miles, as many as 6,000 men have been employed at one time on the Canadian navigation facilities.

In general, clearing and excavation was done in 1954 and 1955. In 1956, excavating and dredging continued and concrete work was started. But the high point in construction took place during 1957, a year signalized by the rise of structures. Installation of equipment and erection of bridges started in 1957 and continued throughout most of 1958. The first major completed structure was the Iroquois Lock in the International Rapids Section of the Seaway. This lock, the most westerly of the seven new Seaway locks has been in operation since May 22, 1958. The Canadian package freighter *Calgarian* was the first commercial vessel to use a Seaway lock. The two American locks near Massena, N.Y., were officially opened to traffic on July 4 of the same year. The other four Canadian locks, located in the Montreal area, neared completion late in 1958. The first lock from seaward is at St. Lambert and the next upstream at Côte Ste. Catherine, both located on the south shore of the St. Lawrence River about eight miles apart. These locks were completed in concrete early in 1958 and the installation of gates, electrical and control equipment, pumps, fenders and other required apparatus, quickly followed. Both locks underwent their initial tests during the autumn of 1958. Next upstream from the Côte Ste. Catherine lock are the Lower and Upper Beauharnois Locks.

Channel dredging has taken place in Montreal Harbour, in Lakes St. Louis and St. Francis, in the channels at Cornwall Island, in the Thousand Islands Section and in the Welland Ship Canal. As much as 56,000,000 cu. yards of rock and earth have been excavated and nearly 18,000,000 cu. yards have been dredged for the construction of the new locks, canals and channels. Canals will have a minimum width of 200 feet and a depth of 27 feet.

The costs of the Seaway and power projects are estimated to be in the vicinity of \$1,054,000,000 divided as follows: the St. Lawrence Seaway Authority of Canada,

\$322,000,000; the Saint Lawrence Seaway Development Corporation of the United States, \$132,000,000; the Hydro-Electric Power Commission of Ontario, \$300,000,000; and the Power Authority of the State of New York, \$300,000,000.

The Seaway is a self-liquidating project and costs of construction and operation of the navigation facilities are to be recovered from the imposition of tolls on shipping. In June 1958, a joint report was presented by Canadian and American Tolls Committees on proposed tolls to be assessed shipping using Seaway facilities. Hearings by the Seaway entities on the recommended tariff of tolls took place in August, for the purpose of giving users an opportunity to express their views on the recommendations.

The Canadian and United States entities earlier came to the conclusion that ships having an over-all length of not more than 730 feet and a beam of up to 75 feet can be accommodated in the Seaway, subject to the proviso that vessels exceeding 715 feet in length or 72 feet in beam should be classified in the category of vessels having characteristics which will subject them to appropriate scheduling and handling so as not to interfere with other traffic.

During 1958, the St. Lawrence Seaway Authority continued the supervision and inspection of contracts that were in operation and the testing of locks and river models and continued investigation into the performance of ships in restricted channels.

Section 2.—Financial Statistics of Waterways

The principal statistics available on the cost of facilities for water-borne traffic consist of the record of public expenditure on waterways. Such expenditure may be classified as capital expenditure, or investment and expenditure for maintenance and operation. Revenue from operation is also recorded. The major part of the capital expenditure for the permanent improvement of waterways is provided by the Federal Government. Capital expenditure by municipalities and private capital expenditure is confined almost entirely to terminal or dockage facilities. On the other hand, investment in shipping has come almost entirely from private sources. No figures are available regarding private investment in shipping except those appearing in the reports of the operating companies that cover only a portion of the field. There are no statistics showing the revenue of ship operators from passenger and freight traffic.

Capital Expenditure.—The only figures available of federal capital expenditure on Canadian waterways are those compiled from the *Public Accounts* and the annual reports of the Departments of Transport, Public Works and Finance. It must be realized that such expenditure cannot be regarded as any indication of the present worth of the undertakings represented. The cost of building canals and other waterways and permanent works to facilitate water transportation in Canada is represented in such reports at their original book values, no deductions having been made from the cumulative totals for depreciation from year to year or for abandonment of works that have been superseded such as, for instance, the first Welland Canals. To this extent such figures are an overstatement of the present value of the works in use. The figures are further limited by the fact that they do not include the cost of maintenance and improvements or the operation of these works, such charges having been made to the consolidated deficit account as annual expenditure and not to capital account. Table 23 shows that capital expenditure on canals, marine services and miscellaneous water-transport facilities reached the grand total of \$443,841,168 by the end of March 1957, but this must be interpreted with the above qualifications in mind. In Table 24 the capital values of the fixed assets administered by the National Harbours Board are shown as at Dec. 31, 1956 and 1957, and are additional to the capital expenditure of Table 23. Figures in Table 24 reflect the capital situation in regard to the national harbours of Canada far better than do those of Table 23 for waterways and facilities, inasmuch as they include all buildings, machinery and durable plant improvements; they also have been subject to deductions for depreciation and the scrapping or abandonment of plant and therefore more nearly approach the present value of the properties under the administration of the National Harbours Board.

23.—Capital Expenditure of the Federal Government on Canals, Marine Services and Miscellaneous Water-Transport Facilities, as at Mar. 31, 1956 and 1957

NOTE.—Compiled from annual reports of the Department of Transport and the *Public Accounts*.

Item	Expenditure			Item	Expenditure		
	Years ended Mar. 31—		Total to Mar. 31, 1957		Years ended Mar. 31—		Total to Mar. 31, 1957
	1956	1957			1956	1957	
Canals	\$	\$	\$	Canals—concluded	\$	\$	\$
Quebec Canals—				Welland Ship Canal...	Cr. 47,159	Cr. 11,206	131,679,636
Beauharnois (old)....	Cr. 473	—	1,606,104	Prior Welland Canals...	Cr. 5,110	Cr. 9,206	27,233,063
Carillon and Grenville	—	—	4,191,727	Canals generally.....	—	—	34,967
Chamblé	—	—	—	Adjustment suspense...	—	—	165,361
(Richelieu R.).....	—	—	780,620				
Lachine.....	Cr. 346,483	Cr. 3,201	13,208,670	Totals, Canals.....	Cr. 783,126	Cr. 32,008	242,104,349
Lake St. Francis.....	—	—	75,907				
Lake St. Louis.....	—	—	298,176				
Soulanges.....	—	—	7,897,119	Marine Services			
Ste. Anne.....	—	—	1,320,216	Marine Service steam-			
St. Ours.....	—	—	735,964	ers.....	676,831	5,249,172	33,098,363
Ontario - St. Lawrence				River St. Lawrence			
Canals—				Ship Channel — con-			
Cornwall.....	—	—	7,233,823	tract dredging.....	3,037,937	3,499,132	120,115,814
Williamsburg Canals..	—	—	1,334,552				
Farran Point.....	—	—	877,090	Totals, Marine Ser-	3,714,768	8,748,304	153,214,177
Rapide Plat.....	—	—	2,159,881	vices.....			
Galop.....	—	—	6,143,468				
Galop Channel.....	—	—	1,039,896	Miscellaneous Faci-			
North Channel.....	—	—	1,995,143	lities.....	—	—	48,522,642
River Reaches.....	—	—	433,830				
Culbute Lock and Dam							
(Ottawa R.).....	Cr. 382,391	—	—	Summary			
St. Peters.....	—	—	648,547	Canals.....	Cr. 783,126	Cr. 32,008	242,104,349
Rideau.....	Cr. 60	—	4,213,531	Marine Services.....	3,714,768	8,748,304	153,214,177
Tay.....	—	—	439,599	Miscellaneous facilities..	—	—	48,522,642
St. Lawrence Ship							
surveys.....	—	—	133,897	Grand Totals.....	2,931,642	8,716,296	443,941,168
Sault Ste. Marie.....	—	—	4,935,809				
Trent.....	Cr. 1,450	Cr. 8,395	19,938,806				
Murray.....	—	—	1,248,947				

24.—Capital Values of Fixed Assets Administered by the National Harbours Board, as at Dec. 31, 1955 and 1957

NOTE.—Compiled from the annual reports of the National Harbours Board.

Item	1956	1957	Item	1956	1957
	\$	\$		\$	\$
Harbour dredging.....	12,206,828	12,206,828	Central heating plants.....	126,383	128,303
Real estate.....	12,534,818	12,538,056	Harbour shops.....	316,861	321,066
Vehicular bridges.....	201,976	201,976	Electric power systems.....	2,202,272	2,243,124
Roads, fences and boundaries..	2,227,882	2,318,612	Water supply systems.....	1,047,032	1,077,803
Sewers and drains.....	830,429	830,429	Floating equipment.....	2,064,192	1,873,456
Miscellaneous structures.....	723,278	724,665	Shore equipment.....	1,062,165	1,265,599
Wharves and piers.....	99,550,650	103,609,065	Miscellaneous small plant.....	611,610	629,643
Permanent sheds.....	28,466,364	30,229,586	Engineering—general surveys..	119,441	127,307
Shed hoists and electrical cranes.....	406,545	406,545	Works under construction....	11,563,048	20,476,931
Railway systems.....	6,616,470	6,611,955	Sundry expenditure—undistributed.....	4,339,129	4,339,129
Grain elevator systems.....	47,081,799	49,226,388	Bridge construction, right-of-way, etc.....	19,459,525	20,084,381
Cold storage systems.....	6,147,128	6,186,553			
Office furniture and appliances..	248,985	266,830	Totals.....	262,586,208	280,410,915
Harbour buildings.....	2,431,398	2,486,685			

25.—Amounts Advanced by the Federal Government to the National Harbours Board for Capital Expenditure, 1956 and 1957

NOTE.—Compiled from the annual reports of the National Harbours Board.

Harbours and Properties	1956	1957	Harbours and Properties	1956	1957
	\$	\$		\$	\$
Halifax.....	2,225,893	2,124,686	Prescott elevator.....	51,995	—
Saint John.....	651,168	394,667	Port Colborne elevator.....	79,955	—
Chicoutimi.....	10,000	—	Churchill.....	39,365	240,050
Quebec.....	1,226,383	1,998,106	Vancouver.....	139,895	140,425
Trois Rivières.....	26,983	227,526			
Montreal.....	7,292,150	11,678,032	Totals.....	11,743,792	16,703,492

Waterways Expenditure and Revenue on Consolidated Fund Account.—

Expenditure under this heading (Tables 26 to 28) is mainly for the operation and maintenance of various facilities for water transport but, unfortunately, the line between operation and maintenance expenditure is not as finely drawn as is desirable. Revenue in connection with waterways of the Department of Transport and the Department of Public Works is shown in Table 29.

To facilitate water transportation, the Federal Government expends annually, in addition to the recurrent expenditure shown here, a considerable amount to cover deficits of the Canadian National (West Indies) Steamships Limited and of the National Harbours Board, and for mail subsidies and steamship subventions as shown in Table 31. Operating expenditure and revenue of facilities administered by the National Harbours Board are shown separately in Table 30.

26.—Expenditure on Canals Charged to Consolidated Deficit Account, Years Ended Mar. 31, 1955-57

NOTE.—Compiled from the annual reports of the Department of Transport.

Canal	1955	1956	1957	Total to Mar. 31, 1957
	EXPENDITURE ON IMPROVEMENTS			
	\$	\$	\$	\$
Main Canals—				
Quebec Canals—				
Beauharnois (old).....	2,873	2,606	—	466,058
Hungry Bay Dyke.....	—	—	—	55,659
Lachine.....	482,758	684,533	143,947	15,380,667
Lake St. Francis.....	—	—	—	55,324
Quebec dredging fleet.....	800	930	—	208,623
Soulanges.....	33,894	50,593	22,361	1,018,786
Superintending engineer.....	—	—	1,552	8,726
Ontario-St. Lawrence Canals—				
Cornwall.....	185,607	97,063	298,474	2,571,898
Williamsburg.....	79,267	243,618	110,528	1,565,345
Administration.....	—	—	—	336,906
Welland Canals—				
Welland Ship.....	487,384	431,189	474,274	4,179,715
Prior Welland Canals.....	—	—	—	2,650,121
Sault Ste. Marie.....	47,695	239,113	183,248	1,129,882

**26.—Expenditure on Canals Charged to Consolidated Deficit Account, Years Ended
Mar. 31, 1955-57—concluded**

Canal	1955	1956	1957	Total to Mar. 31, 1957
EXPENDITURE ON IMPROVEMENTS—concluded				
	\$	\$	\$	\$
Secondary Canals—				
Carillon and Grenville.....	37,787	85,061	32,639	1,371,891
Chambly (Richelieu R.).....	16,503	25,574	34,098	1,431,596
Rideau and Tay.....	95,605	67,935	260,551	1,854,687
Ste. Anne.....	3,664	2,557	1,864	242,482
St. Ours.....	4,772	11,384	5,004	238,905
St. Peters.....	—	129,538	22,807	1,118,639
Canso.....	—	4,291	5,822	10,113
Trent.....	296,315	232,417	122,459	6,002,849
Murray.....	2,039	17,679	—	260,599
Miscellaneous—				
Bay Verte-Chignecto.....	—	—	—	44,388
Culbute Lock and Dam.....	—	—	—	60,923
Surveys and inspections.....	—	—	—	572,990
Canals generally.....	—	—	—	190,509
Totals.....	1,776,963	2,326,081	1,719,623	43,023,281
EXPENDITURE ON OPERATION AND MAINTENANCE				
	\$	\$	\$	\$
Administration—Ottawa.....	140,894	125,230	125,064	..
Quebec Canals—				
Head Office.....	68,121	63,850	70,701	..
Beauharnois (old).....	6,999	7,432	5,777	..
Carillon and Grenville.....	143,326	137,085	145,482	..
Chambly (Richelieu R.).....	207,828	212,962	220,704	..
Hungry Bay and Ste. Barbe Dykes.....	4,463	5,279	5,569	..
Lachine.....	867,568	917,245	935,183	..
Quebec dredging fleet.....	25,773	25,800	32,575	..
Soulanges.....	470,310	472,864	509,172	..
Ste. Anne.....	26,811	29,259	30,208	..
St. Ours.....	31,192	31,616	34,214	..
Ontario-St. Lawrence Canals—				
Head Office.....	215,049	119,165	127,021	..
Cornwall.....	548,966	529,509	559,330	..
Williamsburg.....	293,682	278,090	309,729	..
Canso.....	—	22,181	48,456	..
St. Peters.....	47,977	46,027	46,707	..
Rideau and Tay.....	452,489	465,139	475,923	..
Sault Ste. Marie.....	196,522	195,043	216,779	..
Trent.....	494,347	507,129	539,298	..
Murray.....	31,132	34,395	37,385	..
Welland.....	1,743,338	1,760,344	1,994,555	..
St. Lawrence Ship surveys, etc.....	Cr.1,352,589	—	—	..
Totals.....	4,664,198	5,985,644	6,469,832	..

27.—Marine Service Expenditure Charged to Consolidated Deficit Account, Years Ended Mar. 31, 1956 and 1957

NOTE.—Compiled from annual reports of the Department of Transport.

Marine Services	1956	1957	Marine Services	1956	1957
	\$	\$		\$	\$
Marine Services—			Steamship Inspection.....	704,017	761,689
Administration, including			Marine Service Steamers—		
agencies.....	645,728	685,919	Administration, operation		
Aids to navigation (construction, maintenance and supervision).....	5,990,819	6,928,548	and maintenance.....	6,768,318	7,587,588
Nautical Services—			Marine Signal Service.....	117,821	132,785
Administration, operation			River St. Lawrence Ship		
and maintenance, including			Channel Service—		
grants.....	455,505	468,827	Administration, operation		
Pilotage Service—			and maintenance.....	747,645	885,016
Administration.....	613,599	628,610			
Construction.....	28,033	37,238			
Pensions to former pilots.....	1,800	1,800	Totals.....	16,073,285	18,118,020

28.—Expenditure on Waterways (Harbours, Rivers, Roads and Bridges) Charged to Consolidated Fund Account by Department of Public Works, Years Ended Mar. 31, 1956 and 1957.

NOTE.—Compiled from the annual reports of the Departments concerned by the Comptroller of the Treasury, Department of Finance. Excludes expenditures on harbours administered by the National Harbours Board as shown in Table 30.

Year and Province or Territory	Dredging ¹	Construction	Improvements and Repairs	Staff and Sundries	Total
	\$	\$	\$	\$	\$
1956					
Newfoundland.....	788,315	1,741,128	360,307	231,191	3,120,941
Nova Scotia.....	586,925	2,132,874	503,558	304,417	3,527,774
Prince Edward Island.....	133,853	641,926	129,209	117,093	1,022,081
New Brunswick.....	1,119,977	1,039,446	227,415	647,568	3,034,406
Quebec.....	993,275	3,018,971	1,032,142	628,724	5,673,112
Ontario.....	1,070,917	4,292,802	454,874	460,011	6,278,604
Manitoba.....	204,706	29,226	63,449	144,710	442,091
Saskatchewan.....	—	15,746	110	2,453	18,309
Alberta.....	56,391	28,915	3,366	157,144	245,816
British Columbia.....	1,820,055	1,963,049	308,692	1,493,719	5,585,515
Yukon and Northwest Territories.....	79,194	250,596	23,235	10,769	363,794
Totals, 1956.....	6,853,608	15,154,679	3,106,357	4,197,799	29,312,443
1957					
Newfoundland.....	600,821	2,886,517	378,323	243,557	4,109,218
Nova Scotia.....	1,693,779	2,228,953	642,500	245,519	4,810,751
Prince Edward Island.....	400,087	767,725	166,275	126,024	1,460,111
New Brunswick.....	1,000,262	1,722,186	228,120	327,542	3,278,110
Quebec.....	741,879	4,575,142	192,306	614,894	6,844,221
Ontario.....	796,957	5,830,326	317,126	573,751	7,518,160
Manitoba.....	184,945	18,701	83,873	146,977	434,496
Saskatchewan.....	—	111,456	2,500	—	113,956
Alberta.....	62,029	22,206	1,312	158,736	244,283
British Columbia.....	1,141,022	2,752,602	499,049	760,456	5,153,129
Yukon and Northwest Territories.....	60,615	100,344	15,104	2,720	178,783
Totals, 1957.....	6,682,296	21,016,158	3,246,488	3,200,176	34,145,218

¹ Includes expenditures for dredging plants.

29.—Revenue of the Federal Government in Connection with Waterways, Years Ended Mar. 31, 1956 and 1957

NOTE.—Compiled from annual reports of the Department of Transport.

Item	1956	1957	Item	1956	1957
	\$	\$		\$	\$
Department of Transport			MARINE SERVICES—concluded		
CANAL SERVICES			Miscellaneous.....	25,061	31,323
Lachine.....	359,876	360,213	Refunds of previous year's expenditure.....	81,596	18,890
Soulages.....	2,174	2,654	TOTALS, MARINE SERVICES.....	926,890	944,069
Chambly.....	5,135	5,430			
Ste. Anne.....	279	330	BOARD OF TRANSPORT COMMISSIONERS		
St. Ours.....	429	457	Licences to ships.....	1,896	1,455
Carillon and Grenville.....	1,287	1,206	Sale of publications.....	726	884
Beauharnois.....	49,016	49,160	Refunds of previous year's expenditure.....	9	—
Cornwall.....	50,579	59,046	TOTALS, BOARD OF TRANSPORT COMMISSIONERS.....	2,631	2,339
St. Lawrence Waterways—			Totals, Department of Transport.....	2,692,395	2,704,602
Cornwall area.....	3,343	28,866			
Williamsburg.....	13,082	13,022	Department of Public Works		
St. Peters.....	692	710	EARNINGS OF DRY DOCKS		
Canso.....	20	—	Champlain Dock, Lauzon.....	76,450	157,793
Welland.....	1,085,532	1,037,576	Lorne Dock, Lauzon.....	27,615	70,304
Sault Ste. Marie.....	3,647	3,289	Esquimalt new dock.....	300,245	102,228
Rideau and Tay.....	19,798	21,634	Selkirk repair slip.....	1,440	3,268
Trent.....	96,886	98,255	TOTALS, EARNINGS.....	305,750	333,593
Murray.....	1,220	966			
Dredging fleet.....	—	5,880	WORKS AND PLANTS LEASED		
Sale of publications.....	2	1	Kingston dry dock.....	12,100	12,100
Interest on loan to City of Montreal (St. Rémi Tunnel)...	42,813	41,885	Ferry privileges.....	359	258
Miscellaneous.....	20	571	Dredges and plants.....	70,684	42,749
Refunds of previous year's expenditure.....	27,044	27,043	TOTALS, LEASED.....	83,143	55,107
TOTALS, CANAL SERVICES.....	1,762,874	1,758,194	Rents from water lots, etc.....	47,167	43,562
			Refunds against expenditure reported in previous years.....	80,468	16,321
MARINE SERVICES			Sundry receipts, test borings, etc..	9,587	1,547
Fines and forfeitures.....	5,513	14,441	Totals, Dept. of Public Works.....	526,115	450,130
Steamship inspection.....	160,920	170,419			
Wharf revenue.....	432,487	490,084			
Harbour dues.....	147,843	131,750			
Measuring surveyor's fees.....	396	335			
Examinations — masters' and mates' fees.....	6,806	7,191			
Pilots' licence fees (pilotage).....	251	338			
Pilotage dues.....	12,859	10,202			
Shipping fees.....	4,142	4,504			
Marine steamer earnings.....	20,335	26,228			
Signal station dues.....	1,513	1,504			
Rentals—water lots and light-house sites.....	24,257	34,141			
Sale of land, buildings, etc.....	1,312	582			
Merchant seamen's identity certificates.....	1,599	2,137			

30.—Operating Revenue and Expenditure of Harbours, Elevators and Bridges under the National Harbours Board, 1955-57

Harbour and Year	Operating Revenue	Operating Expenditure	Operating Income	Harbour and Year	Operating Revenue	Operating Expenditure	Operating Income
	\$	\$	\$		\$	\$	\$
Halifax—				Montreal—			
1955.....	1,988,469	1,363,173	625,296	1955.....	8,308,616	4,680,740	3,627,876
1956.....	1,909,248	1,434,250	474,998	1956.....	9,761,604	5,365,474	4,396,130
1957.....	1,947,120	1,432,788	514,332	1957.....	8,670,352	5,457,114	3,213,238
Saint John—				Trois Rivières—			
1955.....	875,819	845,450	30,369	1955.....	349,418	74,556	274,862
1956.....	965,767	910,423	55,344	1956.....	393,156	179,035	214,121
1957.....	947,312	880,078	67,234	1957.....	406,177	69,407	336,770

30.—Operating Revenue and Expenditure of Harbours, Elevators and Bridges under the National Harbours Board, 1955-57—concluded

Harbour and Year	Operating Revenue	Operating Expenditure	Operating Income	Harbour and Year	Operating Revenue	Operating Expenditure	Operating Income
\$	\$	\$		\$	\$	\$	
Port Colborne Elevator—				Jacques Cartier Bridge (Montreal)			
1955.....	766,666	496,958	269,708	1955.....	2,100,393	233,000	1,867,393
1956.....	869,683	583,078	281,605	1956.....	2,164,240	278,257	1,875,983
1957.....	732,607	470,134	262,473	1957.....	2,228,438	318,392	1,910,046
Prescott Elevator—				Churchill—			
1955.....	995,449	430,200	565,249	1955.....	782,726	710,606	72,120
1956.....	1,086,880	483,973	597,908	1956.....	1,074,723	745,554	329,168
1957.....	1,089,935	502,142	587,793	1957.....	1,097,120	918,842	178,278
Chicoutimi—				Vancouver—			
1955.....	105,651	33,150	72,501	1955.....	3,002,061	1,824,124	1,177,937
1956.....	110,108	27,944	82,164	1956.....	3,654,085	2,392,875	1,261,210
1957.....	110,534	32,022	78,512	1957.....	4,101,410	2,260,285	1,841,125
Quebec—							
1955.....	1,908,450	1,368,339	540,111				
1956.....	2,078,286	1,955,500	122,786				
1957.....	1,972,806	1,929,407	43,399				

Shipping Subsidies.—Table 31 shows the amounts of steamship subventions paid in connection with contracts made under statutory authority for coastal and inland water-shipping services. The payment of these subventions is administered by the Canadian Maritime Commission.

31.—Steamship Subventions, Years Ended Mar. 31, 1957 and 1958

Services	1957	1958
\$	\$	\$
Pacific Coast Services—		
Vancouver and northern ports of British Columbia and Queen Charlotte Islands....	562,000	249,167
Vancouver and Northern British Columbia ports.....	—	82,400
Eastern Services—		
Baddeck and Iona, N.S.....	15,000	17,500
Campobello, N.B., and Lubec, Maine.....	8,600	8,600
Cross Point, Que., and Campbellton, N.B.....	40,000	32,000
Dalhousie, N.B., and Miguasha, Que.....	19,000	27,500
Grand Manan and the mainland, N.B.....	95,000	95,000
Halifax, Canso and Guysborough, N.S.....	26,000	26,000
Halifax, Torbay, Isle Madame, N.S., and ports on the west coast of Cape Breton, N.S.....	23,000	23,000
Île aux Coudres and Les Éboulements, Que.....	15,000	15,000
Île aux Grues and Montmagny, Que. (summer).....	3,300	3,300
Île aux Grues and Montmagny, Que. (winter).....	1,700	1,700
Mulgrave and Canso, N.S.....	54,900	54,900
Mulgrave, Queensport and Isle Madame, N.S.....	30,000	32,500
Murray Bay and north shore of the St. Lawrence, Que. (winter).....	50,000	50,000
Owen Sound and ports on Manitoulin Island and Georgian Bay, Ont.....	95,255	98,322
Pelée Island and the mainland, Ont.....	42,500	42,500
Pictou, Mulgrave and Cheticamp, N.S.....	13,500	17,000
Pictou, N.S., Charlottetown, P.E.I., and the Magdalen Islands, Que.....	120,000	174,000
Prescott, Ont., and Ogdensburg, N.Y.....	—	—
Prince Edward Island and Newfoundland.....	80,000	80,000
Prince Edward Island and Nova Scotia.....	163,000	175,000
Quebec, Natashquan and Harrington, Que.....	470,000	607,000
Quebec or Montreal, Caspe and the Magdalen Islands, calling at way ports, Que.....	156,500	189,000
Rimouski, Matane and ports on the north shore of the St. Lawrence, Que.....	125,500	125,500
Rivière du Loup and St. Siméon, Que.....	21,000	21,000
Saint John, N.B., Tiverton, Freeport, Westport and Yarmouth, N.S.....	33,000	33,000
Sorel and Île St. Ignace, Que.....	—	43,000
Sydney and Bay St. Lawrence, N.S., calling at way ports.....	45,000	45,000
Newfoundland Coastal Steamship Services.....	2,501,038	2,740,597
Totals.....	4,809,793	5,109,486

¹ The annual subsidy for this service is \$15,000 refundable in whole or in part. Full refunds have been made to date.

PART V.—CIVIL AIR TRANSPORT*

Section 1.—Administration and Development

Historical Developments.—Canada's aviation history dates back to 1909 when the *Silver Dart*, piloted by Jack McCurdy (Hon. J. A. D. McCurdy, former Lieutenant-Governor of Nova Scotia), flew at Baddeck, N.S. This was the first aeroplane flight by a British subject in the British Empire. A replica of this aircraft took to the air on Feb. 23, 1959, to mark the golden anniversary of powered flight in Canada.

There was little aviation development in Canada until World War I. Following the War, many of Canada's wartime aviators assisted in developing air transportation services into inaccessible areas, air forestry patrols and intercity air services. During this period the flying clubs movement received government assistance in the training of pilots and engineers required by Canada's civil aviation industry.

World War II was a period of intensive construction of airports and aerodromes to meet the requirements for the training of airmen under the British Commonwealth Air Training Plan. At the end of the War, many Service-trained Canadian airmen turned to commercial flying and were absorbed by existing operating companies or helped to develop other flying services. Transatlantic air services were inaugurated by the Department of Transport during the War and were turned over to Trans-Canada Air Lines which was created by Act of Parliament in 1937 to provide for the development of a government-controlled transcontinental air service for regular scheduled operations. Canadian Pacific Air Lines was created by the amalgamation of small commercial operators for the servicing of Canada's northland. In 1949 the Canadian Pacific Air Lines was designated to provide transpacific services on behalf of Canada and in the spring of 1959 began the operation of one daily transcontinental flight each way between Montreal and Vancouver. Operations of TCA and CPA are covered on pp. 833-834.

The Control of Civil Aviation.—The control of civil aviation in Canada is under the jurisdiction of the Federal Government and is administered under the authority of the Aeronautics Act 1919, and amendments thereto. The Aeronautics Act is in three parts. Broadly speaking, Part I deals with the technical side of civil aviation comprising matters of registration of aircraft, licensing of airmen, the establishment and maintenance of airports and facilities for air navigation, air traffic control, accident investigation and the safe operation of aircraft. This Part of the Act is administered by the Director of Civil Aviation under the supervision of the Director General of Air Services, Department of Transport. Part II of the Act deals with the social and economic aspects of commercial air services and assigns to the Air Transport Board certain regulatory functions of commercial air services (*see* p. 773). Part III deals with matters of government internal administration in connection with the Act.

Weather Services.—Weather services are provided by the Meteorological Branch of the Department of Transport to meet the increasing demands of aviation, agriculture, industry and the general public. The expanding weather services required by the Department of National Defence both in Canada and with Canadian Armed Forces abroad are a major responsibility of the Branch. A Central Analysis Office is operated in Montreal together with 52 forecast offices across Canada, two on shipboard and four in Europe. Forecast offices are linked by 39,100 miles of teletype and radio teletype circuits and by a national facsimile system covering a total of 13,900 air-line miles. As of Nov. 1, 1958, the Branch maintained 272 synoptic stations taking six-hourly observations, a network of 31 radiosonde stations (including five in the extreme Arctic operated jointly with the United States) taking upper air soundings, 70 stations recording upper winds and 1,766 climatological stations. One ocean weather station taking weather observations every three hours in the Pacific, 1,000 miles west of Vancouver, is maintained under international agreement.

* Sections 1 and 2 of this Part were revised in the Department of Transport and Section 3, except where otherwise indicated, in the Transportation and Public Utilities Section, Public Finance and Transportation Division, Dominion Bureau of Statistics. For military air transportation, *see* Chapter XXVI on Defence of Canada.

Air Industries and Transport Association.—Commercial flying schools that are members of the Air Industries and Transport Association numbered 55 at the end of 1957. During 1957 the number of students instructed and graduated as private pilots was 922, the number graduated as commercial pilots was 186 and 65,397 instructional hours were flown.

Royal Canadian Flying Clubs.—At the end of 1957 there were 42 flying clubs connected with the Royal Canadian Flying Clubs Association. The total membership was 9,531 and the aircraft available for instructional purposes numbered 199. During the year 1,556 students were instructed and graduated as private pilots and 186 students were graduated as commercial pilots. Instructional hours of flying totalled 112,322.

International Air Agreements.—The position of Canada in the field of aviation as well as its geographical location makes imperative co-operation with other nations of the world engaged in international civil aviation. Canada took a major part in the original discussions that led to the establishment of the International Civil Aviation Organization (ICAO) which has headquarters at Montreal, Que. A special article on The International Civil Aviation Organization and Canada's Participation Therein appears in the 1952-53 Year Book, pp. 820-827.

In recent years Canada has been a signatory to agreements concerning civil aviation with Australia, New Zealand, Belgium, Denmark, France, Ireland, Japan, Mexico, the Netherlands, Norway, Peru, Portugal, Sweden, Switzerland, the United Kingdom and the United States.

Section 2.—Air Services

Air transport services are grouped into two broad classes—Scheduled Services and Non-scheduled Services. The first group provides regular point-to-point service on scheduled advertised routes and the second group includes:—

- (1) Specific Point Services from a designated base to specific points on the basis of unit rates that may be undertaken as the traffic warrants and that are not on a time schedule;
- (2) Chartered Services operated on the basis of the private chartering of an entire aircraft for a specific trip;
- (3) Contract Air Services which operate on one or more specific contracts—these do not operate on a time schedule nor need the contractor take the entire space of the aircraft; and
- (4) Specialty Air Services concerned with large-scale forestry and utility surveys according to some specific agreement.

Trans-Canada Air Lines.—During 1957, TCA flew 1,385,777,000 passenger-miles, carrying 2,392,713 passengers. Ton-miles of air freight totalled 12,903,000, air express 2,575,000 and mail 9,855,000.

During the year the company introduced a non-stop air service between Toronto and Vancouver, reducing the travel time to seven hours. A non-stop Atlantic service was also inaugurated between Toronto and the United Kingdom, and a daily transcontinental flight was routed through Windsor, Ont. Operations with the propeller-turbine Viscounts were extended to London, Ont., Quebec City, Saguenay, Sept Îles, Moncton, Fredericton, Saint John, Yarmouth, Halifax and Boston.

During 1958 a third Super Constellation transcontinental flight was inaugurated including non-stop service between Edmonton and Toronto and other direct services were begun between Calgary and Saskatoon, Toronto and Moncton, and Montreal and Halifax. Viscount service was extended to 12 more Canadian communities. The international route pattern was broadened to include Belgium, Switzerland and the Island of Antigua in the West Indies. Non-stop flights were begun between Montreal and Paris as well as a shortened transatlantic operation between Vancouver and London. Fifteen weekly flights in each direction were scheduled across the Atlantic during the peak summer traffic.

TCA routes, domestic and international, totalled 31,544 unduplicated miles and service was being provided within Canada and to the United States, the British Isles, France, Belgium, Germany, Switzerland, Bermuda and the islands of the Caribbean.

At the end of 1958 TCA's fleet in service consisted of 46 Viscounts, 12 Super Constellations, 21 North Stars and 9 DC-3's. Its working force numbered 10,043 persons. A further increase in service and equipment will take place in 1959—20 Vanguards on order, combined with the long-range DC-8's and short-range Viscounts, will give TCA an all four-engined, turbine-powered fleet, probably the first in the air transportation industry.

1.—Passenger, Freight and Mail Traffic of Trans-Canada Air Lines, 1948-57

SOURCE: Trans-Canada Air Lines Annual Report.

Year	Revenue Passenger Traffic ¹		Revenue Commodity Traffic ²		Mail Traffic
	No.	passenger-miles	lb.	ton-miles	ton-miles
1948.....	532,555	249,575,544	4,313,297	1,608,102	2,294,088
1949.....	648,574	310,699,767	5,471,013	2,160,644	3,403,810
1950.....	790,808	379,605,810	9,518,009	3,585,775	3,644,752
1951.....	930,691	450,840,623	10,826,333	3,861,583	3,969,371
1952.....	1,132,518	653,961,415	19,757,969	7,042,427	4,843,052
1953.....	1,307,810	759,319,800	22,996,531	7,947,113	5,373,841 [±]
1954.....	1,438,349	852,475,532	24,044,347	10,192,705	6,942,299
1955.....	1,682,195	969,392,395	30,889,383	12,175,433	7,704,144
1956.....	2,072,912	1,191,784,000	35,789,457	14,476,000	8,613,000
1957.....	2,392,713	1,385,777,000	23,987,486	15,478,000	9,855,000

¹ Includes non-scheduled service.

² Includes excess baggage and express.

2.—Operating Revenue and Expenditure of Trans-Canada Air Lines, 1948-57

SOURCE: Trans-Canada Air Lines Annual Report.

Year	Passenger	Freight ¹	Mail	Operating Revenue ²	Operating Expenditure	Operating Deficit or Surplus
	\$	\$	\$	\$	\$	\$
1948.....	14,469,578	888,917	4,648,775	20,866,936	21,624,056	— 757,120
1949.....	19,460,395	1,161,612	5,400,000	26,523,969	27,472,728	— 948,759
1950.....	24,183,501	1,667,827	5,400,000	31,810,684	31,318,613	+ 492,071
1951.....	28,666,505	1,913,703	5,741,000	48,010,301	43,336,120	+4,674,181
1952.....	42,022,616	3,730,521	7,698,641	55,057,708	52,744,741	+2,312,967
1953.....	48,242,942	4,111,456	7,786,119	62,236,564	61,433,700	+ 802,864
1954.....	53,123,868	4,705,513	8,371,344	68,764,252	67,731,512	+1,032,740
1955.....	61,105,243	6,015,910	8,297,605	77,428,254	76,770,922	+ 657,332
1956.....	74,478,516	6,769,395	8,869,934	91,306,046	89,197,115	+2,108,931
1957.....	86,523,981	6,392,156	9,662,585	104,995,707	96,680,353	+8,315,354

¹ Express and excess baggage.

² Includes other revenue.

Canadian Pacific Air Lines Limited.—In 1957, CPA operated scheduled domestic services over 9,354 route-miles and flew 279,916 revenue passengers a total of 305,710,136 revenue passenger-miles. Revenue cargo amounted to 5,464,903 ton-miles and mail to 3,222,186 lb. CPA overseas routes operate from Vancouver to Australia, New Zealand, Honolulu and Fiji on the South Pacific service; to Japan and Hong Kong via the Great Circle route through the Aleutian Islands of the North Pacific; from Vancouver to Amsterdam across the Arctic; and across the Atlantic to Portugal and Spain. A South American network serves Mexico City, Lima, Santiago and Buenos Aires. In Canada, CPA flies

north-south routes, mostly in the West. In 1958 permission was given by the Air Transport Board to CPA to operate one transcontinental flight a day in each direction between Vancouver, Winnipeg, Toronto and Montreal. At the end of 1958 the fleet consisted of 41 aircraft.

Independent Air Lines.—In addition to the two major Canadian air carriers, Trans-Canada Air Lines and Canadian Pacific Air Lines Limited, there are five other domestic air carriers licensed to operate scheduled commercial air services in Canada, namely, Austin Airways Limited, Toronto, Ont.; Maritime Central Airways Limited, Charlottetown, P.E.I.; Pacific Western Airlines Limited, Vancouver, B.C.; Quebecair Inc., Rimouski, Que.; and Trans-Air Limited, Winnipeg, Man.

Licensed domestic air carriers operating in Canada as at Mar. 31, 1958, held valid operating certificates covering 42 scheduled, 111 flying training, and 650 other non-scheduled and specialty services. These non-scheduled services, in addition to providing effective access to sections of Canada that are inaccessible by other means of transportation, act as feeder lines to the scheduled airlines. They also include such specialty services as recreational flying, aerial photography and surveying, aerial pest control, aerial advertising and aerial patrol.

Commonwealth and Foreign Scheduled Commercial Air Services.—At the end of December 1958 there were 16 Commonwealth and foreign air carriers holding valid Canadian operating certificates and licences covering international scheduled commercial air services operating into Canada, as follows:—

Air France (Compagnie Nationale Air France) operates between points in Metropolitan France and Montreal, Que., Canada, direct or via Shannon, Ireland; Keflavik, Iceland; or the Azores and Gander, Nfld., Canada; and New York, N.Y., and Chicago, Ill., U.S.A.

American Airlines, Inc., operates between Toronto, Ont., Canada, and New York, N.Y., Newark, N.J., U.S.A.; direct or via Buffalo, N.Y., U.S.A.

British Overseas Airways Corp., operates between London, England, Gander, Nfld., and Montreal, Que., Canada; and Detroit, Mich., U.S.A.; and between London, England, Gander, Nfld., and Montreal, Que., Canada.

Eastern Air Lines, Inc., operates between the terminals Ottawa, Ont., Canada, and Montreal, Que., Canada, and New York, N.Y., U.S.A., direct or via Burlington, Vt., U.S.A.; and between the terminals Ottawa, Ont., and Montreal, Que., Canada, and Washington, D.C., U.S.A., direct or via Massena/Syracuse, N.Y., U.S.A.

KLM Royal Dutch Airlines operates between the terminals Amsterdam, the Netherlands, and Montreal, Que., Canada; and between the terminals Montreal, Que., Canada, and Willemstad, Curaçao, Netherlands Antilles.

Lufthansa German Airlines operates between points abroad and Montreal, Que., Canada, and Chicago, Ill., U.S.A.

Northeast Airlines, Inc., operates between Montreal, Que., Canada, and Boston, Mass., U.S.A., via Burlington, Vt., Montpelier-Barre, Vt., White River Junction, Vt. (Lebanon Airport, N.H.), and Concord, N.H., U.S.A.

Northwest Airlines, Inc., operates between Winnipeg, Man., Canada, and Fargo, N.D., U.S.A., and between Minneapolis/St. Paul, Minn., U.S.A., Edmonton, Alta., Canada, Anchorage, Alaska, and beyond.

Pan American World Airways Inc., operates between Seattle, Wash., U.S.A. and Fairbanks, Alaska, with points of call at Juneau and Annette Island, Alaska, and Whitehorse, Y.T., Canada, and between the points in the United States, Gander, Nfld., Canada, and Europe.

Qantas Empire Airways Ltd., operates between Sydney, Australia, San Francisco, Cal., U.S.A., and Vancouver, B.C., Canada.

Sabena Belgian World Airlines operates between Brussels, Belgium, and New York, N.Y., U.S.A., via Shannon, Ireland, and Gander, Nfld., Canada.

Scandinavian Airlines System operates between Stockholm, Sweden, Oslo, Norway, Copenhagen, Denmark, Prestwick, Scotland, Montreal, Que., Canada, and New York, N.Y., U.S.A.

Seaboard and Western Airlines, Inc., operates between points in the United States, Gander, Nfld., Canada, and beyond.

TWA (Trans-World Airlines, Inc.), operates between points in the United States, Gander, Nfld., Canada, and points abroad.

United Air Lines, Inc., operates between Vancouver, B.C., Canada, and Seattle, Wash., U.S.A., via Bellingham, Wash., U.S.A.

Western Air Lines, Inc., operates between Great Falls, Mont., U.S.A., Cut Bank, Mont., U.S.A., and Lethbridge, Alta., and Edmonton, Alta., Canada, via Calgary and Penhold, Alta., Canada.

Section 3.—Civil Aviation Statistics

Ground Facilities.*—Aircraft landing areas in Canada are classified in Table 3 by administrative agency, as licensed or unlicensed land facilities or seaplane bases, and military air fields. The unlicensed aerodromes and seaplane bases shown are kept in varying degrees of readiness but lack one or more of the facilities usually found in licensed airports, such as lights, customs offices, passenger accommodation, ground/air communication, etc. Associated with these ground facilities is a network of radio aids to navigation designed to facilitate en route navigation and safe landings under low visibility conditions.

The Department of Transport operates 102 low frequency radio ranges, 9 VHF omni-directional ranges, 54 non-directional radio beacons and 26 instrument landing systems. These facilities are calibrated and flight-checked by Civil Aviation Inspectors on a regular schedule. Eighteen additional VHF omni-directional ranges are under construction.

* Compiled from information provided by the Civil Aviation Branch, Air Services Division, Department of Transport, Ottawa.

3.—Aircraft Landing Areas classified by Type of Facility and Operator, by Province, as at Oct. 1, 1958

NOTE.—This information is based on the latest *Airport and Aerodrome Directory* published by the Department of Transport. Further details may be found in that publication and in the *Canada Air Pilot*.

Type of Facility and Operator	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	N.W.T.	Yukon	Canada
Licensed Airports (Land)...	2	2	4	5	33	62	12	30	29	38	9	4	230
Department of Transport...	2	1	2	1	7	24	3	5	6	18	7	4	80
Municipality.....	—	—	—	2	9	11	6	14	11	17	—	—	70
Private.....	—	1	2	2	17	27	3	11	12	3	2	—	80
Unlicensed Aerodromes.....	7	—	4	2	42	24	27	44	31	71	5	11	268
Department of Transport...	2	—	—	—	3	14	3	1	—	6	2	—	31
Municipality.....	—	—	1	—	7	—	—	12	—	5	—	—	25
Private.....	5	—	2	1	23	10	23	29	28	6	3	5	135
Abandoned or unknown.....	—	—	1	1	9	—	1	2	3	54	—	6	77
Licensed Seaplane Bases....	2	—	5	—	36	76	23	10	4	30	12	1	199
Department of Transport...	—	—	—	—	—	—	—	—	—	3	—	—	3
Municipality.....	—	—	1	—	—	1	—	1	1	8	—	—	12
Private.....	2	—	4	—	36	75	23	9	3	19	12	1	184
Unlicensed Seaplane Bases..	23	1	8	5	38	50	23	10	12	39	34	8	251
Department of Transport...	—	—	—	—	—	—	—	—	1	1	4	—	6
Municipality.....	—	—	—	—	—	1	—	—	1	—	1	—	3
Private.....	7	—	1	1	16	29	11	2	7	6	12	2	94
Abandoned or unknown.....	16	1	7	4	22	20	12	8	3	32	17	6	148
Military Airfields.....	6	1	4	3	4	14	7	2	9	5	2	5	62
RCAF.....	3	1	2	2	4	14	7	2	9	2	2	1	49
Army.....	—	—	—	1	—	—	—	—	—	3	—	—	8
RCN.....	—	—	2	—	—	—	—	—	—	—	—	—	2
U.S. Navy.....	2	—	—	—	—	—	—	—	—	—	—	—	2
U.S. Air Force.....	1	—	—	—	—	—	—	—	—	—	—	—	1
Totals, Land Bases.....	9	2	8	7	75	86	39	74	60	109	14	15	498
Totals, Seaplane Bases....	25	1	13	5	74	126	46	20	16	69	46	9	450
Totals, Military Airfields..	6	1	4	3	4	14	7	2	9	5	2	5	62
Grand Totals.....	40	4	25	15	153	226	92	96	85	183	62	29	1,010

Air Traffic Control.—The primary functions of the Air Traffic Control Service of the Department of Transport are to expedite and maintain an orderly flow of air traffic and to prevent collision between aircraft operating within controlled airspace, and between aircraft and obstructions on the movement area of controlled airports. This is accomplished through airport control, approach control and area control services, together with flight information, alerting for search and rescue, customs notification and aircraft identification. These services are described as follows:—

Airport Control is designed particularly to provide air traffic control service in the vicinity of major civil airports where the volume and type of aircraft operations, weather conditions and other factors indicate its need in the interest of safety. The service includes the control of pedestrians and vehicles on the manoeuvring area of the airport. Control is effected by means of direct radiotelephone communication or visual signals to aircraft and surface vehicles on and in the vicinity of controlled airports. The control towers are located at Patricia Bay, Port Hardy and Vancouver, B.C.; Lethbridge, Calgary and Edmonton, Alta.; Saskatoon and Regina, Sask.; Winnipeg, Man.; the Lakehead, Windsor, London, Toronto, Toronto Island, Ottawa and North Bay, Ont.; Montreal, Cartierville, Quebec, Val d'Or, Mont Joli and Sept Îles, Que.; Moncton and Saint John, N.B.; Sydney, N.S.; Gander, Nfld.; and Frobisher, N.W.T. Most of these control towers are in continuous operation but a few provide 16-hour daily service only.

Approach Control is provided by approach control towers at Edmonton and Calgary, Alta.; Winnipeg, Man.; Ottawa and North Bay, Ont.; and Frobisher, N.W.T. This service is in addition to the regular airport control service provided at these locations. Approach control service consists of the provision of standard IFR separation to aircraft operating in accordance with the Instrument Flight Rules within the local approach control area of the airport.

Area Control is designed particularly to provide air traffic control service to aircraft operating within controlled airspace during weather conditions which prevent a pilot from seeing other aircraft or obstructions and necessitate his reliance on instruments to conduct the flight. Area control centres are located at Vancouver, B.C.; Edmonton, Alta.; Winnipeg, Man.; Toronto, Ont.; Montreal, Que.; Moncton, N.B.; and Goose and Gander, Nfld. Each centre is connected with the control towers, radio range stations and operations offices within its area by means of an extensive system of local and long-line interphone or radio circuits, and through the radio communication facilities available at these offices to all aircraft requiring area control service. Each area control centre is similarly connected with the adjacent centres, including centres in the United States, for the purpose of co-ordinating the control of aircraft operating through more than one control area. This communications system permits each centre to maintain a continuous detailed record of the movements of all aircraft operating in accordance with the Instrument Flight Rules, and a general record of the movements of all aircraft operating in accordance with the Visual Flight Rules within its control area. In addition to providing area control service to aircraft operating within the controlled airspace over Newfoundland, the Goose and Gander area control centres provide this service within the airspace over approximately one-half of the North Atlantic Ocean. Area control service is provided for approximately 16,000 miles of airways, air routes and control channels.

Flight Information provides advice and information useful for the safe and efficient conduct of flight, including weather reports and forecasts, field condition reports, data concerning aids to navigation, traffic information, refuelling and transportation facilities and other related data of assistance to the pilot in planning or conducting a flight. Such service is provided by all air traffic control units but particularly by the eight area control centres.

Alerting for Search and Rescue is designed to ensure that the appropriate organizations are notified of aircraft in need of search and rescue aid and otherwise to assist such organizations, as required. Area control centres are responsible for notifying these organizations promptly of non-arrival at destination of any aircraft for which a flight plan or flight notification has been received. This requires the maintenance and constant supervision of a continuous record of active flights to ensure that non-arrival of any aircraft is detected immediately. The service is available to any pilot who files either a flight plan or a flight notification with any communications agency of the Air Services of the Department or directly with one of the area control centres or control towers.

Customs Notification Service facilitates the routine notification of the appropriate customs agency by pilots who plan to cross the Canada-United States boundary. The Air Traffic Control communications system and units concerned therewith forward pilot requests to notify the customs officer at the airport of destination.

Aircraft Movement Information Service is provided by area control centres to assist the Department of National Defence in establishing the identification of all aircraft operating within specified areas.

The number of controlled operations in Canada during 1958 was 3,076,645, an increase of 8.4 p.c. over 1957.

Operation Statistics.—The statistics given in Table 4 show the steady increase in recent years in passenger, freight and mail traffic.

4.—Summary Statistics of Civil Aviation, 1954-57

NOTE.—Figures include operations of Canadian international carriers and Canadian operations of foreign carriers.

Item	1954	1955	1956	1957
Aircraft-Miles Flown—				
Revenue..... No.	61,582,481	83,805,304	101,723,710	104,699,140
Non-revenue..... "	"	"	"	"
Totals..... No.	61,582,481	83,805,304	101,723,710	104,699,140
Passengers Carried—				
Revenue..... No.	2,792,348	3,249,099	3,864,818	4,319,920
Non-revenue ¹ "	73,199	54,076	58,721	35,554
Totals..... No.	2,865,547	3,303,175	3,923,539	4,355,474
Passenger-Miles—				
Revenue..... No.	1,066,805,242	1,223,825,448	1,547,279,882	1,835,183,870
Non-revenue..... "	49,134,404	57,477,989	61,416,920	71,030,597
Totals..... No.	1,115,939,646	1,281,303,437	1,608,696,802	1,906,214,467
Freight Carried—				
Revenue..... lb.	109,299,356	233,561,830	319,260,401	264,812,177
Non-revenue..... "	5,714,121	7,121,832	7,639,517	7,079,240
Totals..... lb.	115,013,477	240,683,662	326,899,918	271,891,417
Freight Ton-Miles—				
Revenue..... No.	14,057,279	18,094,169	22,065,286	24,267,406
Non-revenue..... "	3,379,895	3,477,194	3,039,907	2,998,061
Totals..... No.	17,437,174	21,561,363	25,105,193	27,265,467
Mail carried..... lb.	24,228,571	26,616,505	27,914,288	31,413,504
Mail ton-miles..... No.	8,239,855	9,048,610	10,238,458	12,021,927
Hours Flown by Aircraft—				
Transportation revenue..... No.	397,057	530,924	646,902	628,785
Transportation non-revenue..... "	21,516	31,306	37,567	40,760
Patrols, surveys, etc..... "	75,760	74,989	87,920	113,271
Totals..... No.	494,333	637,219	772,389	782,816
Gasoline consumption..... gal.	53,164,769	77,938,918	102,836,140	112,769,672
Lubricating oil consumption..... "	695,642	1,006,154	1,212,361	1,220,680
Licensed civil airports (all types)..... No.	470	495	519	550
Year Ended Mar. 31—				
	1954 ^a	1955 ^a	1956 ^a	1957
Licensed Civil Aircraft (all types)..... No.	2,694	3,148	3,217	3,646
Licensed Civil Air Personnel—				
Commercial pilots..... No.	1,499	1,754	2,145	2,411
Senior commercial..... "	323	312	380	399
Airline transport..... "	612	717	831	968
Glider pilots..... "	159	201	246	287
Private pilots..... "	4,080	5,559	6,580	7,832
Air navigators..... "	54	56	77	101
Air traffic controllers..... "	234	270	416	565
Air engineers..... "	25	20	33	43
Aircraft maintenance engineers..... "	1,388	1,544	1,747	1,916

¹ Includes employees other than crews.

Table 5 shows civil aviation figures for 1957 by type of service. A definition of scheduled and non-scheduled carriers is given on p. 833. Statistics for international carriers include traffic over Canadian territory for both Canadian and foreign operators; a small amount of traffic across Canadian territory and between foreign stations is also included.

5.—Summary Statistics of Civil Aviation, by Type of Service, 1957

Item		Canadian Carriers			Foreign Inter- national	Total
		International ¹	Scheduled	Non- scheduled and Other		
Aircraft-Miles Flown — revenue transportation.....	No.	19,973,320	51,098,075	30,144,274	3,483,471	104,699,140
Passengers Carried.....	No.	828,294	2,425,846	498,274	603,060	4,355,474
Revenue.....	"	826,116	2,418,845	481,642	593,317	4,319,920
Non-revenue.....	"	2,178	7,001	16,632	9,743	35,554
Passenger-Miles ²	No.	687,685,185	1,109,370,644	9,624,209	99,534,429	1,906,214,467
Revenue.....	"	664,390,341	1,064,051,291	9,140,612	97,601,626	1,835,183,870
Non-revenue.....	"	23,294,844	45,319,353	483,597	1,932,803	71,030,597
Freight Carried ³	lb.	15,947,362	83,352,454	163,192,279	9,399,322	271,891,417
Revenue.....	"	15,235,845	79,001,858	161,911,419	8,663,055	264,812,177
Non-revenue.....	"	711,517	4,350,596	1,280,860	736,267	7,079,240
Freight Ton-Miles ³	No.	9,365,587	16,088,631	789,250	1,021,999	27,265,467
Revenue.....	"	8,307,133	14,401,563	689,796	868,914	24,267,406
Non-revenue.....	"	1,058,454	1,687,068	99,454	153,085	2,998,061
Mail carried.....	lb.	3,149,376	24,474,267	1,640,032	2,149,829	31,413,504
Mail ton-miles.....	No.	2,642,563	8,662,581	108,363	608,420	12,021,927
Hours Flown by Aircraft.....	No.	83,022	306,880	377,026	15,888	782,816
Transportation revenue.....	"	80,681	279,498	252,837	15,769	628,785
Transportation non-revenue.....	"	2,341	18,648	19,652	119	40,760
Patrols, surveys, etc.....	"	—	8,734	104,537	—	113,271
Gasoline consumption.....	gal.	18,221,295	63,563,891 ¹	12,796,731	18,189,124	112,771,041
Lubricating oil consumption.....	"	260,130	553,186 ¹	187,682	219,682	1,220,680

¹ Includes trans-border services.

² Exclusive of charter service, figures for which are not available.

³ Includes freight, excess baggage and express.

6.—Capital Investment of the Department of Transport in Air Services, as at Mar. 31, 1955-57

NOTE.—Compiled from Department of Transport records.

Item	1955	1956	1957	Total as at Mar. 31, 1957
	\$	\$	\$	\$
Airways and Airports—				
Civil Aviation—				
Capital appropriations.....	10,229,143	20,380,084	24,575,153	280,760,793
Transferred from other Departments.....	131,000	187,736	2,337,508	
Transferred to other Departments.....	—	—	Cr. 661,781	
Property transferred to Crown Assets Disposal Corporation.....	Cr. 6,291,708	Cr. 4,589,963	Cr. 4,033,133	
Property retired through obsolescence, loss or abandonment.....	124,477	Cr. 830,678	Cr. 20,532,817	
Telecommunications Division (Aviation Radio Aids)—				
Capital appropriations.....	2,188,480	2,726,143	9,062,975	36,295,436
Property transferred to Crown Assets Disposal Corporation.....	—	Cr. 6,600	—	
Property retired through obsolescence, loss or abandonment.....	—	—	Cr. 374,663	

**6.—Capital Investment of the Department of Transport in Air Services, as at
Mar. 31, 1955-57—concluded**

Item	1955	1956	1957	Total as at Mar. 31. 1957
	\$	\$	\$	\$
Telecommunications Division (excluding Aviation Radio Aids)—				
Radio Act and Regulations.....	251,254	196,257	424,727	1,441,197
Property retired through obsolescence, loss or abandonment.....	—	—	Cr. 98,897	
Radio aids to marine navigation.....	555,444	477,455	Cr. 3,172,477	—
Northwest Communication System.....	803,855	485,414	891,966	16,633,653
Property transferred to Crown Assets Disposal Corporation.....	Cr. 11,805	Cr. 2,031	Cr. 68,771	
Property retired through obsolescence, loss or abandonment.....	Cr. 49,690	Cr. 1,138	Cr. 139,613	
Meteorological Facilities—				
Capital appropriations.....	915,604	1,057,686	846,751	6,964,199
Transferred from other Departments.....	—	246,599	249,985	
Canadian Government Transatlantic Air Service..	—	Cr. 4,788,369	—	—
Totals.....	8,846,054	15,538,595	9,306,913	342,095,278

**7.—Expenditure and Revenue of the Department of Transport in connection with
Air Services, Years Ended Mar. 31, 1955-57**

NOTE.—Compiled from Department of Transport records.

Item	1955	1956	1957
	\$	\$	\$
Expenditure			
Air Transport Board.....	268,287	247,552	267,282
Air Services Administration.....	244,439	670,123	821,362
Civil Aviation Division (including Aviation Radio Aids).....	18,499,590	19,389,446	26,228,279
Control of Civil Aviation.....	1,000,885	1,035,412	1,148,866
Construction Services, administration.....	874,554	793,273	1,096,337
Grants to aeroplane clubs.....	335,050	301,750	359,950
Airways and Airports, Operation and Maintenance—			
Ordinary.....	8,764,906	9,081,301	9,933,248
Aviation radio aids.....	5,578,798	5,874,174	9,938,775
Contributions to assist municipalities.....	98,170	80,097	117,947
Contributions to State of Michigan.....	24,900	19,780	23,410
Contributions to International Civil Aviation Organizations re Iceland Government air aids to navigation.....	38,398	29,138	35,544
Contributions to Denmark in joint support of North Atlantic Air Navigation facilities in the Faeroes and Greenland.....	61,328	48,865	37,258
Contributions to South Pacific Air Transport Council.....	122,500	122,500	122,500
Contributions towards development of landing facilities in mining areas.....	2,000	80,510	500,507
Airways and airports traffic control.....	1,598,101	1,922,646	2,914,937
Telecommunications Division (excluding Aviation Radio Aids).....	4,623,622	4,574,196	2,365,606
Administration of Radio Act and Regulations.....	1,420,455	1,555,992	1,683,185
Radio aids to marine navigation.....	2,308,412	2,274,286	—
Telegraph and Telephone Services—			
Administration, operation and maintenance.....	556,293	444,871	399,620
Construction and improvements.....	338,462	299,047	282,801
Meteorological Division, Operation and Maintenance.....	6,860,870	7,326,209	8,381,456
Totals, Expenditure.....	30,496,808	32,207,526	38,063,985
Revenue and Receipts			
Air Services Administration.....	44	1	45
Civil Aviation Division (including Aviation Radio Aids).....	6,025,233	6,953,052	8,071,624
Private air pilots' certificates.....	10,705	17,575	22,032
Aircraft registration fees.....	6,277	7,060	7,690
Airport licences.....	231	321	198
Airworthiness certificates.....	1,529	2,190	3,000
Fines, Aeronautics Act and Regulations.....	1,633	4,668	1,816

**7.—Expenditure and Revenue of the Department of Transport in connection with
Air Services, Years Ended Mar. 31, 1955-57—continued**

Item	1955	1956	1957
Revenue and Receipts—concluded	£	£	\$
Civil Aviation Division—concluded			
Aircraft landing fees.....	2,211,046	2,841,371	3,312,241
Rentals at airports.....	792,716	734,410	768,337
Outside and hangar space rental.....	564,157	512,105	444,037
Rental of equipment.....	8,263	13,172	7,451
Rentals, employees living quarters.....	290,121	328,006	326,229
Miscellaneous rentals.....	75,574	71,062	85,508
Power service.....	79,574	95,083	103,830
Concessions—			
Gasoline and oil.....	530,990	707,312	837,750
Taxi.....	43,838	56,781	58,135
Telephone.....	9,445	11,999	12,692
Restaurants and snack bars.....	13,931	51,374	22,051
Car rental.....	—	—	26,247
Car-parking area.....	—	43,378	58,977
Other.....	82,886	74,106	77,937
Telephone service.....	18,657	18,592	14,429
Airport radio service to aircraft.....	357,941	374,573	617,408
Radio message tolls.....	18,078	55,437	409,063
Mess receipts.....	20,669	30,610	25,161
Sales, miscellaneous.....	47,443	23,945	76,558
Observation roof turnstiles.....	20,296	25,243	28,868
Miscellaneous revenue.....	132,954	107,524	100,259
Gander Airport—			
Mess hall accommodation.....	21,039	22,544	14,006
Airlines hotel accommodation.....	39,511	39,775	20,186
Skyways Club.....	5	—	—
Coal sales.....	30,683	21,953	27,386
Mess hall board.....	23,265	23,878	11,861
Airlines hotel dining room.....	62,555	56,799	26,395
Airlines hotel bar.....	46,063	52,974	26,552
Skyways Club snack bar.....	54	—	—
Recoverable services.....	44,548	22,896	21,682
Heating.....	185,304	192,593	176,577
Electricity.....	140,602	150,300	164,237
Sanitary fees.....	3,730	3,006	2,055
Bus operation.....	5,270	8,124	8,996
Assessment collections.....	457	465	386
Net profit commercial caterers.....	26,773	97,682	65,356
Refunds, previous year's expenditure.....	56,420	52,166	58,045
Telecommunications Division (excluding Aviation Radio Aids).....	2,831,154	1,331,027	1,440,223
Radio operators' examination fees.....	1,902	1,703	3,071
Radio Station Licences—			
Aircraft station.....	15,142	16,825	20,204
Amateur experimental station.....	18,859	16,925	18,441
Commercial receiving station.....	211	624	199
Experimental station.....	1,350	1,280	1,517
Limited coast station.....	900	950	950
Municipal police private commercial station.....	366	413	463
Private commercial station.....	88,325	106,202	135,188
Public commercial station.....	14,290	18,915	23,117
Ship station.....	37,944	42,033	43,727
Commercial broadcasting receiving station.....	—	1,289	3,718
Technical and training school station.....	40	32	15
Sale of transport publications.....	2,545	2,816	2,850
Fines—Radio Act and Regulations.....	220	196	84
Radio Message Tolls—			
DOT-operated coast stations.....	160,888	126,613	1,492
Marconi-operated coast stations.....	81,609	86,097	—
Rentals, employees living quarters.....	30,143	28,621	3,584
Other rentals.....	2,669	1,881	2,020
Government telegraph and telephone tolls.....	524,641	203,467	154,556
Sale of British Columbia facilities.....	1,500,000	—	162,065
Sale of Maniwaki-St. Thérèse landlines.....	7,500	—	—
Sale of Mount Hayes-Sandspit system.....	—	35,000	—
Mess receipts.....	60	3,899	—
Sundries.....	4,670	6,336	159
Northwest communication system.....	300,962	592,202	736,448
Refunds, previous year's expenditure.....	35,918	36,708	76,355
Meteorological Division.....	39,719	58,773	94,380
Rentals, employees living quarters.....	23,041	26,429	38,089
Other rentals.....	3,731	4,301	3,421

7.—Expenditure and Revenue of the Department of Transport in connection with Air Services, Years Ended Mar. 31, 1955-57—concluded

Item	1955	1956	1957
	\$	\$	\$
Meteorological Division—concluded			
Sale of transport publications.....	2,429	2,063	2,646
Radio Commercial Message Tolls—			
DOT-operated stations.....	843	3,042	13,274
Communication facilities, inter-office.....	321	2,506	3,898
Power service.....	367	474	465
Sundries.....	760	12,079	15,431
Refunds, previous year's expenditure.....	8,227	7,879	17,156
Totals, Revenue and Receipts.....	8,896,150	8,342,853	9,606,272

No statistics are available regarding total expenditure on flying operations by the federal and provincial governments or by private individuals, but capital expenditure by commercial air carriers for property as reported for the end of 1956 and 1957 is shown in Table 8.

8.—Cost of Property, Revenue and Expenditure for Scheduled and Other Commercial Air Carriers, 1956 and 1957

Item	1956			1957		
	Scheduled ¹	Other	Total	Scheduled ¹	Other	Total
	\$	\$	\$	\$	\$	\$
Cost of Property.....	62,560,505	11,076,900	73,637,405	88,289,453	14,839,950	103,129,403
Aircraft.....	37,331,192	6,733,039	44,064,231	56,355,765	8,738,247	65,094,012
Aircraft engines.....	9,869,460	1,453,045	11,322,505	12,522,964	1,749,353	14,272,317
Buildings and improvements.....	7,742,450	1,692,450	9,434,900	9,878,034	2,790,418	12,668,452
Miscellaneous.....	7,617,403	1,198,366	8,815,769	9,532,690	1,561,932	11,094,622
Revenue and Expenditure—						
Revenue.....	145,611,813	36,557,037	182,168,850	151,214,277	38,867,758	190,082,035
Expenditure.....	139,999,885	34,582,095	174,581,980	151,660,378	37,792,381	189,452,759

¹ Includes Canadian trans-border, transatlantic and transpacific services.

Employees and Salaries and Wages.—The numbers of civil air personnel licensed in recent years are shown in Table 4, p. 838. However the figures in Table 9 include pilots and engineers in the employ of the Federal Government and of private individuals as well as those not employed at all in the ordinary sense.

9.—Employees and Salaries and Wages in Civil Aviation, 1956 and 1957

Year and Class of Employee	Scheduled		Non-scheduled		Totals	
	Em- ployees	Salaries and Wages	Em- ployees	Salaries and Wages	Em- ployees	Salaries and Wages
	No.	\$	No.	\$	No.	\$
1956						
General officers.....	792	5,505,832	148	1,139,045	940	6,644,877
Clerks.....	1,673	4,956,780	199	598,319	1,872	5,555,099
Pilots.....	906	8,372,639	600	3,863,889	1,506	12,236,528
Co-pilots.....	229	1,215,181	59	458,268	318	1,673,449
Despatchers.....	147	785,270	46	166,845	193	952,115
Communication operators.....	552	2,805,587	48	154,081	900	2,959,668
Stewards or other attendants.....	598	2,061,358	6	18,722	604	2,080,080
Air engineers.....	613	2,960,286	290	1,356,753	903	4,317,039
Mechanics.....	2,607	11,244,833	467	1,556,073	3,074	12,800,906
Airport employees.....	1,977	7,083,685	145	279,844	2,122	7,363,529
Stores employees.....	346	1,141,316	61	177,251	407	1,318,567
Other employees.....	1,820	6,761,743	189	577,231	2,009	7,338,974
Totals, 1956¹.....	12,560	54,894,510	2,288	10,346,321	14,848	65,240,831

¹ Excludes employees of foreign carriers domiciled in Canada.

9.—Employees and Salaries and Wages in Civil Aviation, 1956 and 1957—concluded

Year and Class of Employee	Scheduled		Non-scheduled		Totals	
	Em- ployees	Salaries and Wages	Em- ployees	Salaries and Wages	Em- ployees	Salaries and Wages
	No.	\$	No.	\$	No.	\$
1957						
General officers.....	857	6,546,703	137	1,038,021	994	7,584,724
Clerks.....	1,783	5,926,744	261	967,190	2,044	6,893,934
Pilots.....	927	9,260,522	688	4,423,416	1,615	13,683,938
Co-pilots.....	195	1,220,984	90	430,293	285	1,651,277
Despatchers.....	148	826,673	50	181,599	198	1,008,272
Communication operators.....	816	2,786,282	51	176,932	867	2,963,214
Stewards or other attendants.....	681	2,531,628	11	38,766	692	2,570,394
Air engineers.....	659	3,927,710	337	1,707,046	996	5,634,756
Mechanics.....	2,515	11,884,951	525	1,867,218	3,040	13,752,169
Airport employees.....	2,241	8,522,160	141	333,316	2,382	8,855,476
Stores employees.....	300	1,313,886	78	243,958	438	1,557,844
Other employees.....	2,053	8,148,139	410	1,009,419	2,463	9,157,558
Totals, 1957¹	13,235	62,596,382	2,779	12,417,174	16,014	75,313,556

¹ Excludes employees of foreign carriers domiciled in Canada.

PART VI.—OIL AND GAS PIPELINES*

A special article covering the history and development of pipeline construction in Canada appears in the 1954 Year Book at pp. 861-869. Additional information has been carried in each succeeding edition and the following Section brings pipeline development up to the end of 1958.

Section 1.—Pipeline Developments

Oil Pipelines.—Since 1950 when the first major oil pipeline went into operation in Canada, additional mileage has been constructed annually to serve the expanding petroleum industry. In 1950, 1,423 miles of line were in operation and by the end of 1957 a total of 6,800 miles had been constructed, exclusive of 1,840 miles of line in the United States used to transport Canadian crude oil only. Refineries from the West Coast of Canada and the United States Pacific Northwest to as far east as Toronto are now linked with producing fields in Western Canada.

The two principal components of the system are the trunk pipelines of Interprovincial Pipe Line Company and Trans Mountain Oil Pipe Line Company, both originating in Edmonton, Alta., although the former has a line connecting the Redwater field with its main receiving terminal at Edmonton. The Edmonton stations of both trunk lines are served by six feeder lines bringing in crude oil from the surrounding fields: Britamail Pipe Line Company Limited, Edmonton Pipe Line Company Limited, Imperial Pipe Line Company Limited (two lines), Pembina Pipe Line Company Limited, and Texaco Exploration Company, as well as by Interprovincial's line from the Redwater field.

Interprovincial Pipeline.—As of Dec. 31, 1957, the company's system extended from Redwater, Alta., to Port Credit, Ont., in the vicinity of Toronto, a distance of 1,930 miles. It is the longest crude oil pipeline in the world. To increase carrying capacity, the company has constructed parallel lines or loops on its existing right-of-way for a total of 1,116 miles. The aggregate length of pipe is therefore 3,046 miles. The system's continuous route traverses from west to east, the Provinces of Alberta, Saskatchewan and Manitoba, the States of North Dakota, Minnesota, Wisconsin and Michigan, and finally terminates in the Province of Ontario.

Further expansion took place in 1958. During the year 82 miles of 24-inch pipe were constructed at locations between Edmonton and Regina, giving the company two

* Prepared under the direction of Dr. Marc Boyer, Deputy Minister of the Department of Mines and Technical Surveys, by R. A. Simpson, Mineral Resources Division.

complete lines between Edmonton, Alta., and Superior, Wis. East of Regina more pumping capacity was added in both Canada and the United States. At the end of the 1958 program the capacity of the various sections was:—

<i>Section</i>	<i>Barrels per day</i>
Edmonton, Alta., to Regina, Sask.....	275,000
Regina, Sask., to Cromer, Man.....	335,000
Cromer, Man., to Gretna, Man.....	376,000
Gretna, Man., to Clearbrook, Minn.....	345,000
Clearbrook, Minn., to Superior, Wis.....	346,000
Superior, Wis., to Sarnia, Ont.....	258,000
Sarnia, Ont., to the Toronto area in Ontario.....	111,000

Gross deliveries to regions served by the pipeline were: Western Canada, 33,700,000 bbl.; U.S. refineries, 20,700,000 bbl.; Eastern Canada, 41,400,000 bbl.; and tankers out of Superior, 5,600,000 bbl. Tariff charges from Edmonton to Regina, Gretna, Superior, Sarnia and the Toronto area are 23½, 36, 44, 64 and 72 cents per bbl., respectively.

Trans Mountain Pipeline.—The Trans Mountain pipeline was constructed in 1952 and 1953 at which time the line consisted of 719 miles of 24-inch pipe connecting Edmonton and Vancouver, B.C. Between 1953 and 1957, 63 miles of pipeline were constructed to connect with refineries at Ferndale and Anacortes in the State of Washington. The capacity was increased from 120,000 bbl. a day to 185,000 bbl. a day. In 1957, two 30-inch loops of 51 miles each were constructed to increase the line's capacity to 250,000 bbl. daily.

During 1957 gross deliveries of crude oil to refineries in Washington totalled 27,100,000 bbl. while those to British Columbia totalled 22,300,000 bbl. Offshore shipments totalled 7,100,000 bbl., most of it shipped during the first half of the year for the California market. Tariff charges from Edmonton to Kamloops and Vancouver, B.C., and to Ferndale and Anacortes, Wash., were 38, 40, 42 and 42 cents, respectively. The marine loading charge at Vancouver was 2½ cents per bbl.

Other Oil Pipelines.—Oil pipeline construction slackened appreciably in 1957 and 1958. Pembina Pipe Line Limited constructed 116 miles of gathering lines and 32 miles of loop between Edmonton and Calmar. Throughput in 1957 increased 20 p.c. over the previous year to 38,000,000 bbl., and by November of the same year the system was serving 2,113 wells. Texaco Exploration Company looped 5½ miles of its main line.

In Saskatchewan, Trans Prairie Pipelines Limited increased its trunk line to 50 miles in the process of joining the Weyburn field to the line of Westspur Pipe Line Company termination in Midale which delivers oil from this and other fields in southeastern Saskatchewan to the Interprovincial line at Cromer, Man.

Natural Gas Pipelines.—Construction of natural gas pipelines in Canada was the dominating feature of all pipeline developments during 1957 and 1958. Altogether, 19,198 miles of gathering, transmission and distribution lines were in operation at the end of 1957. This was an increase of 5,479 miles from that in operation at the end of the previous year and indicates the intensity of preparations to make natural gas available to new markets in the Provinces of British Columbia, Manitoba, Ontario and Quebec. Of the total mileage, 1,774 miles were gathering lines, 6,970 miles were transmission lines, and 10,454 miles were distribution lines. Continued construction brought Alberta natural gas by pipeline as far east as Montreal before the end of 1958. Distribution lines constituted a large proportion of new construction, but during 1958 almost 2,300 miles of transmission lines and about 100 miles of gathering lines were added.

The most significant single development in 1957 was the completion of Canada's first major gas transmission line, Westcoast Transmission Company Limited, from the Peace River district to Vancouver and the Canada-United States border. In 1958 the most important single development was the completion of the Trans-Canada pipeline from Alberta to Eastern Canada.

Westcoast Transmission Company Limited.—The Westcoast Transmission pipeline, which was completed in October 1957, connects the producing fields of the Peace River district of British Columbia and adjacent areas in Alberta with consuming areas in the interior and lower mainland of British Columbia and with a United States pipeline on the Washington-British Columbia boundary. The completed system is made up of 803 miles of pipe. There are 650 miles of mainline 30-inch pipe linking Taylor with the areas to the south, 27 miles of 12-inch gathering lines in Alberta, 37 miles of 26-inch line connecting the Alberta fields with Taylor, and 89 miles of gathering lines varying in diameter from 26 inches to 8 inches in British Columbia.

Gas from fields in Alberta is free of sulphur or 'sweet' and does not require treatment in the Taylor processing plant. Gas from the British Columbia fields is 'sour' or contains sulphur and also condensates which must be removed in the processing plant prior to entering the transmission line.

When operations commenced, deliveries were made to Inland Natural Gas Company Limited for distribution in localities in the interior of British Columbia as far east as Trail; to British Columbia Electric Company for sale in Vancouver and environs; and to Pacific Northwest Pipeline Corporation in the United States.

Trans-Canada Pipeline.—Construction of the Trans-Canada pipeline began in June 1956 and by the time winter conditions halted work 210 miles of the 34-inch western section were completed. During 1957, 1,153 miles of pipeline were added; by September the line was completed to Winnipeg, which began receiving natural gas at that time, and by the end of the year companies in Brandon, Rivers, Hamiota, Neepawa and Portage la Prairie in Manitoba and Kenora in Ontario were being supplied by pipeline. By the end of January 1958, gas was being delivered to the Lakehead and the main construction had been halted for the winter. During 1957 Trans-Canada also constructed the 20-inch section of line from Toronto to Montreal with smaller laterals to Lindsay and to Ottawa. Domestic natural gas from southwestern Ontario fields and imported United States gas was 'borrowed' by Trans-Canada from Union Gas Company of Canada Limited to serve communities along the completed eastern section pending completion of the line making Alberta natural gas available in Eastern Canada. Construction of the final section of the line from the Lakehead to Toronto was completed in October 1958.

Initial capacity of the line was 300,000,000 cu. feet daily. Additional compressors to be installed during the first four years of operation will raise the capacity to 570,000,000 cu. feet a day and provision is made for an ultimate daily capacity of 780,000,000 cu. feet.

Other Natural Gas Pipelines.—British Columbia Electric Company Limited converted its Vancouver manufactured gas system to natural gas by mid-January 1957 and by the end of the year had added a further 585 miles of line to serve 15 communities in the lower Fraser River Valley. In October, Inland Natural Gas Company Limited completed its system to serve communities in the Cariboo, Okanagan and West Kootenay areas.

Gas pipeline developments in Alberta were highlighted by the construction of the initial gathering system of Alberta Gas Trunk Line Company. At the end of 1957 the company had 117 miles of 34- and 18-inch pipe in place to connect the Bindloss and Provost fields in Alberta with the Trans-Canada pipeline terminal at Burstall, Sask. In 1958, Alberta Gas Trunk extended its system to the Pincher Creek field in the Foothills region of southern Alberta. Northern Utilities Limited continued expanding its system and added 12 communities to its system. Canadian Western Natural Gas Company completed a distribution system in one community during the year.

The Saskatchewan Power Corporation, which serves all communities in Saskatchewan that have distribution systems except Lloydminster, Lone Rock and Unity, continued its program to construct distribution systems in all reasonably sized communities and supply them from its province-wide transmission system. Regina and six smaller communities were added in 1957 to the list of communities supplied with natural gas.

The chief construction in Manitoba was that by Winnipeg and Central Gas Company to supply Winnipeg with natural gas.

During 1957 pipeline construction in Ontario constituted a high proportion of the national total. Accelerated programs were undertaken in southern Ontario when Trans-Canada negotiated successfully for an interim supply of natural gas from Union Gas Company of Canada Limited which was and is importing United States natural gas to supplement its own supply from fields in southwestern Ontario. Ottawa and 14 smaller communities, principally along Lake Ontario and the St. Lawrence River, were served with natural gas one year earlier than originally expected as a result of this plan. Twin City Gas Company Limited and Northern Ontario Natural Gas Company Limited supplied Kenora, Fort William and Port Arthur. Major construction to serve localities along the Trans-Canada route was carried out in 1958. A total of 1,660 miles of distribution pipeline was laid in the province during the year, in addition to 600 miles of transmission line, exclusive of the Trans-Canada pipeline itself.

Section 2.—Oil Pipeline Statistics*

There were 32 oil pipelines operating in Canada at Dec. 31, 1957, with a total mileage of 6,873 compared to 6,051 at the end of 1956. Pipeline deliveries shown in Table 1 were made to non-pipeline carriers, foreign pipelines, and terminals including refineries and distributing centres.

During 1957 operating revenues of all oil pipelines except Amurex Oil Development Company, Anglo American Exploration Company, Anglo Canadian Oils Limited, Green River Exploration Company, Mobil Oil of Canada Limited, and Sarnia Products Line totalled \$87,719,710 compared with \$78,213,744 in 1956.

1.—Oil Delivered by Pipeline 1954-58

Destination	1954	1955	1956	1957	1958
	bbl.	bbl.	bbl.	bbl.	bbl.
British Columbia	13,612,931	19,309,150	21,809,740	22,300,264	20,597,276
U.S. Pacific Northwest (at Sumas, B.C.)	953,403	11,408,992	19,211,435	27,329,940	8,968,639
West Coast offshore shipments	—	—	6,230,466	6,904,960	—
Alberta	16,452,608	18,518,740	17,830,462	13,570,320	16,150,606
Saskatchewan	14,191,691	15,543,202	16,732,809	17,691,698	16,289,075
Manitoba	6,743,309	7,514,552	9,961,540	9,952,757	10,628,835
U. S. Midwest (at Grttna, Man.)	1,435,895	5,246,832	16,867,189	20,643,820	20,781,689
Ontario—crude oil	33,340,688	41,148,261	46,515,517	46,845,164	59,552,656
Ontario—refinery products	32,441,988	37,894,021	43,022,632	44,189,759	43,256,943
Quebec	53,323,422	67,691,018	76,758,440	81,428,930	78,547,073
Totals, Net Deliveries	172,495,935	224,274,768	274,940,340	290,857,612	274,772,792

* Includes natural gasoline.

Employee and revenue data shown in Table 2 do not include statistics for eight pipelines operated as departments of the oil companies which are manned by employees on the regular payrolls of those companies.

* Statistics of oil pipelines are given in greater detail in the DBS monthly report *Pipe Lines (Oil) Statistics*. Additional information on the interprovincial movement of oil by pipeline will be found in Chapter XX, Part I, Section 5.

2.—Operating Statistics of Oil Pipelines, 1955-57

Item		1955	1956	1957
Barrels Handled (gross daily average)—				
Gathering.....	No.	309,467	419,342	448,401
Trunk.....	"	778,036	1,014,353	1,140,146
Barrel miles (trunk lines).....	'000,000	83,693	110,992	114,572
Average miles per barrel (trunk lines).....	No.	295	299	273
Average employees.....	"	1,267	1,500	1,722
Salaries and wages.....	\$	6,196,071	7,929,889	9,541,372
Man-hours worked by wage-earners (including overtime).....	No.	683,861	834,493	962,302
Operating revenues.....	\$	58,952,816	78,316,555	87,719,710

CHAPTER XIX.—COMMUNICATIONS

CONSPECTUS

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NOTE.—The interpretation of the symbols used in the tables throughout the Year Book will be found facing p. 1 of this volume.

Communications media in Canada have been shaped to meet the needs of the country. Great networks of telephone, telegraph and radio services, inextricably bound together, provide adequate and efficient service which, in this era of electronic advancement, is under continual technological change and development. The familiar challenges of the country—its size, its topography, its climate, its small population—which have reared their heads in other areas of development, have had to be faced as well in the field of communications. That these have been overcome is evidenced by the fact that today Canada possesses communication facilities and services second to none in the world.

Section 1.—Government Control over Agencies of Communication*

Each telephone system (see p. 849) in Canada has become a monopoly within its own operating territory, a prerequisite of efficient service. Because of the lack of competition, the Federal Government, in 1903, organized the regulation of the rates and practices of those systems operating under federal charter. The Bell Telephone Company of Canada was made subject to regulation by the Board of Railway Commissioners for Canada under the provisions of the Railway Act. The British Columbia Telephone Company, originally the Western Canada Telephone Company, received its federal charter in 1916. The three Prairie Province telephone systems are operated by their respective governments and the many hundreds of other companies throughout Canada are also responsible to provincial regulatory bodies.

Land line telegraph and tariffs and tolls charged by companies incorporated by the Federal Government are also regulated by the Board of Transport Commissioners. Similarly, tariffs and tolls charged to the public by individuals or companies for radio-telephone communications within Canada are regulated by the Board of Transport Commissioners under the provisions of the Railway Act and the Regulations made under the Radio Act.

Except for those matters covered by the Canadian Broadcasting Act, radio communications in Canada are regulated under the Radio Act and Regulations which include control of any equipment liable to cause interference to radio or television reception (see

* Revised in the Telecommunications Branch, Department of Transport, Ottawa.

also p. 858). In addition, all radio communication matters are administered in accordance with the provisions of the International Telecommunication Convention and Radio Regulations annexed thereto and in accordance with such regional agreements as the Inter-American Telecommunications Convention and Inter-American Radio Agreement, and the North American Regional Broadcasting Agreement. (See also p. 858).

National radio broadcasting in Canada entered its present phase in 1936 when, with the passage of the Canadian Broadcasting Act, the Canadian Broadcasting Corporation replaced the Canadian Radio Broadcasting Commission. The Act gave the Corporation wide powers in the operation of the system and gave to the Minister of Transport the technical control of all broadcasting stations.

During 1958 the Government established a Board of Broadcast Governors and the Canadian Broadcasting Corporation Board of Governors was abolished. The Board of Broadcast Governors will regulate the establishment and operation of radio and television broadcasting networks, the activities of public and private broadcasting stations and the relationship between them, in the interest of providing a national broadcasting service of high standard, basically Canadian in content and character. While the Minister of Transport is the licensing authority under the Radio Act, the Broadcasting Act requires that the applications for broadcasting station licences or for any change in an existing broadcasting station be referred to the Board of Broadcast Governors for its recommendation before being dealt with by the Department.

Section 2.—Telecommunications*

During the past half-century, Canada has experienced tremendous economic expansion. Population growth and the advance to new industrial frontiers have been matched by an upward surge in national productivity and general standard of living. Continuing development of Canada is dependent on both individual pioneering and the co-operative efforts of many industries and the telecommunications industry is filling a vital role in this drama of growth.

Business and industry have expanded and ventured into isolated areas assisted and promoted by Canadian telecommunications industries which have anticipated the needs of the future with vast programs of development in virgin territories. Technological development has been particularly important to the extension of telecommunications in Canada. To meet the demands placed upon it, the industry has constantly introduced newer and better equipment, tools and methods of operation. In the growth of urban centres, the development of rural communities and the pioneering of new territory, Canadian telecommunications agencies have constantly sought to provide the highest quality of service for the greatest number of people. The major railways, the hundreds of co-operating telephone companies, the radio and television companies and federal communications organizations work together with a common purpose, building networks of telecommunications from coast to coast. They provide such familiar services as telephone, telegraph, teletype, radio and television, and many other related means of communication. In addition, mutual co-operation has allowed them to satisfy a variety of defence needs. A number of defence projects along the northern reaches of the country have been undertaken by the major telephone organizations, notably the construction of the Mid-Canada Radar Line, as joint contractors for the Government.

Subsection 1.—Telephones

Alexander Graham Bell first transmitted human speech through electrically energized equipment in March 1876, and in August of the same year a one-way call from Brantford to Paris in Ontario marked the first successful long-distance test of the new invention. Soon after the instrument was perfected, telephone exchanges sprang up in many Canadian

* Textual data in the introduction of this Section and in Subsection 1 was prepared by The Bell Telephone Company of Canada, Montreal. Statistical material of Subsection 1 and Subsection 2 was revised in the Public Finance and Transportation Division, Dominion Bureau of Statistics. Subsections 3 to 6 were revised in the Telecommunications Branch of the Department of Transport, Ottawa.

communities, sometimes two competing companies in one place. As a result, in April 1880, The Bell Telephone Company of Canada was established by Act of Parliament and authorized as the official agent for telephone service in thirty-two cities and towns across the country. However, it came to be recognized that, in the existing state of the industry, one company could scarcely develop and organize service over so wide a territory and separate companies were set up in British Columbia. The Bell Telephone withdrew from the Maritime Provinces in the 1880's and installations in the Prairie Provinces were sold to the respective provincial governments in 1908-09. The seven major telephone systems that developed across Canada worked together to establish long-distance service on a national basis and in 1932 they founded the Trans-Canada Telephone System, which now has eight full members including both shareholder-owned companies and provincial government systems. They are as follows:—

Avalon Telephone Company (joined in 1957)
Maritime Telegraph and Telephone Company, Limited
The New Brunswick Telephone Company, Limited
The Bell Telephone Company of Canada (serving Ontario and Quebec)
Manitoba Telephone System
Saskatchewan Government Telephones
Alberta Government Telephones
British Columbia Telephone Company

These eight systems, together with the Island Telephone Company (P.E.I.), Québec Téléphone (lower St. Lawrence), The Okanagan Telephone Company, and the North-West Telephone Company (associated with the British Columbia Telephone Company) comprise the Telephone Association of Canada. This organization was established to ensure general co-operation in telephone matters.

As already mentioned, the steadily rising demand for local and long-distance service has called not only for general expansion of Canadian telephone systems but for the constant introduction of modern facilities and services. A number of Canadian companies have developed what is called "Extended Area Service" in many of the communities they serve. This plan eliminates long-distance charges between the larger centres and their suburbs, or between two or more places with close community of interest.

As part of the transmission facilities needed to carry the great volume of long-distance traffic, the members of the Trans-Canada Telephone System collaborated to build a microwave radio relay network stretching from coast to coast, the longest such network in the world. It was placed in operation on July 1, 1958, and is maintained jointly, each system member being responsible for the section falling within its operating territory. The network is capable of carrying 2,400 long-distance conversations and two television programs at the same time.

For several years operators have been dialing many long-distance calls direct to the wanted telephone. The modern switching system which makes this possible also permits customer dialing of long-distance calls. Telephone-users in Toronto and other Ontario centres are now able to dial many direct long-distance calls. A long-range international plan, developed by the telephone companies of Canada and the United States, will eventually allow practically every telephone-user in North America to dial direct to almost any other telephone on the Continent. Direct dialing, an added convenience for telephone customers, will allow Canadian telephone companies to handle economically the ever-growing volume of long-distance calls.

The northward extension of industry in Canada has, of course, required the northward expansion of telephone communications. The North-West Telephone Company operates a radio chain from Vancouver up the British Columbia coast to Kitimat. Uranium City in northern Saskatchewan, six years ago nothing but muskeg and swamp, is provided with communications through a radio network out of Prince Albert, Sask. In Manitoba, the radio-telephone service reaches out to a large number of isolated settlements and bush camps, and also provides communications for aircraft and for boats plying Lake Winnipeg. Goose Bay in Labrador and the ore-rich Schefferville area are now in immediate telephone contact with the remainder of the world through a radio relay network operated out of Quebec City through Sept Îles.

Numerous flexible services are provided by Canadian telephone companies for business and industry. Special conference circuits can be quickly arranged, enabling widely scattered business interests to discuss their affairs without the inconvenience and expense of travel. Data transmitting and processing facilities allow rapid exchange of coded information and printed matter between plants and factories, warehouses, retail outlets and many other business and industrial locations. Telephoto and facsimile are other transmission services designed to provide photographic copy direct from the originator. Radio installations link the traveller with the regular telephone network, providing mobile service for such users as highway departments, trucking and construction firms, fire and ambulance services, and police departments. Oil pipeline companies also use the service as part of their communications arrangements to maintain contact between central offices, storage tanks, pumping stations and control units.

Telephone Statistics.—Telephone systems operating in Canada in 1957 numbered 2,637 as compared with 2,661 in 1956. There was a small increase in the number of co-operative systems in rural districts which rose to 2,177 from 2,172. In contrast, the number of shareholder-owned companies decreased to 330 from 349. The largest of the stock companies, The Bell Telephone Company of Canada, operating throughout the greater part of Ontario and Quebec, served 61 p.c. of all the telephones in Canada, and the British Columbia Telephone Company also shareholder-owned, served 9 p.c. of the total.

The number of telephones in use in Canada has almost doubled in the past ten years. At Dec. 31, 1957, there were 4,827,135 telephones in service compared with 4,499,325 in 1956 and 2,451,868 in 1948. The number of residential telephones and the number of business telephones increased by 9 and 6 p.c., respectively, during 1957. Rural telephones were up 4 p.c. and pay telephones 6 p.c. Several exchanges were converted to dial operation in 1957 and by the end of the year 80 p.c. of all telephones in Canada were dial-operated as compared with 77 p.c. in 1956. Pole-line mileage and wire mileage continue to increase year after year.

1.—Mileages of Pole Line and Wire and Number of Telephones in Use, 1948-57

NOTE.—Figures from 1911 are given in the corresponding table of previous Year Books beginning with the 1938 edition.

Year	Systems	Pole-Line Mileage ¹	Mileage of Wire	Telephones in Use					
				Business	Resi- dential	Rural ²	Public Pay	Total	Per 100 Population
	No.	miles	miles	No.	No.	No.	No.	No.	No.
1948.....	2,992	235,379	7,913,068	701,869	1,328,373	383,227	38,399	2,451,868	19.0
1949.....	2,971	242,147	8,725,760	762,294	1,481,876	414,061	41,381	2,699,612	19.9
1950.....	2,912	245,443	9,488,467	813,352	1,611,759	447,691	44,290	2,917,092	21.1
1951.....	2,904	249,638	10,330,751	864,015	1,735,355	467,171	47,225	3,113,766	22.2
1952.....	2,888	253,420	11,265,903	920,269	1,888,889	492,753	50,455	3,352,366	23.2
1953.....	2,793	257,059	12,307,070	988,489	2,053,944	513,061	50,913	3,606,407	24.4
1954.....	2,788	257,444	13,357,289	1,053,852	2,213,154	538,660	54,603	3,860,269	25.4
1955.....	2,739	259,784	14,758,160	1,132,436	2,408,959	552,838	57,445	4,151,678	26.6
1956.....	2,661	269,303	16,410,897	1,229,150	2,625,787	584,484	59,904	4,499,325	28.0
1957.....	2,637	274,334	18,161,444	1,301,631	2,852,875	609,343	63,286	4,827,135	29.1

¹ Includes underground conduits and buried cable.

² Includes telephones on rural exchange lines and urban exchange lines having more than four parties.

The density of telephones in the different provinces is influenced by the urbanization of the population and the number of telephones used for business purposes.

2.—Telephones in Use, by Province, 1957

Province or Territory	On Individual Lines		On 2- and 4- Party Lines		On Rural Lines		Private Branch Exchanges and Extensions		Public Pay Telephones	Total	Telephones per 100 Population
	Business	Residence	Business	Residence	Business	Residence	Business	Residence			
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
Nfld.....	8,453	7,149	489	15,164	342	703	6,197	2,573	364	41,434	9.7
P.E.I.....	1,716	3,233	98	3,114	291	4,123	1,890	768	100	15,333	15.5
N.S.....	12,946	50,748	574	23,450	1,585	24,390	20,444	10,303	1,973	151,413	21.6
N.B.....	9,054	23,758	1,160	33,809	1,338	18,366	16,726	7,069	1,407	112,687	19.9
Que.....	114,978	328,543	7,620	374,734	14,998	104,017	229,813	80,763	22,161	1,277,627	26.9
Ont.....	171,291	476,412	9,001 ¹	594,009 ¹	11,565	193,469	358,487	150,934	24,990	1,990,158	35.4
Man.....	21,204	63,224	423	74,157	4,960	27,651	34,439	9,238	2,331	237,677	27.6
Sask.....	21,920	92,651	151	2,127	3,304	57,076	21,670	5,787	1,324	206,010	23.4
Alta.....	43,361	157,095	6	73	1,415	27,522	52,612	15,565	1,768	299,417	25.8
B.C.....	48,544	17,444	374	199,181	4,729	107,482	85,909	24,636	6,868	495,167	33.3
Yukon.....	25	10	19	45	2	15	37	59	—	212	1.8
Totals.....	453,492	1,220,267	19,915	1,324,363	44,529	564,814	823,221	307,745	63,286	4,827,135	29.1

¹ Ontario four-party telephones included under Rural Lines.

The major telephone systems record completed calls on representative days throughout the year and on this basis estimate the number of local conversations which, added to the actual count of long-distance calls, gives their total volume of business. Estimates are included for the smaller systems. The number of completed calls on all systems in 1957 was estimated at 7,990,725,000 compared with 7,764,805,000 calls in 1956, or an average of 1,710 calls per telephone and 498 calls per person compared with 1,726 calls per telephone and 486 calls per person in 1956.

Extended area service which eliminates toll charges between adjacent communities was introduced in more centres across Canada but, despite this service, long-distance calls increased by 18,193,000 from 1955 to 1956 and by 7,328,000 from 1956 to 1957.

3.—Local and Long-Distance Calls and Average Calls per Telephone and per Capita, 1948-57

NOTE.—Figures from 1928 will be found in the corresponding tables of previous Year Books beginning with the 1939 edition.

Year	Local Calls	Long-Distance Calls	Total Calls	Total Calls per Capita ¹	Average Calls per Telephone		
					Local	Long-Distance	Total
	No.	No.	No.	No.	No.	No.	No.
1948.....	4,025,342,000	91,875,000	4,117,217,000	321	1,642	37.5	1,680
1949.....	4,454,024,000	105,232,000	4,559,256,000	339	1,650	39.0	1,689
1950.....	4,894,719,000	117,892,000	5,012,611,000	366	1,678	40.4	1,718
1951.....	5,146,238,000	127,406,000	5,273,644,000	376	1,653	40.9	1,694
1952.....	5,482,973,000	126,721,000	5,609,694,000	389	1,635	37.8	1,673
1953.....	5,952,756,000	131,899,000	6,084,655,000	412	1,650	36.6	1,687
1954.....	6,209,771,000	137,761,000	6,347,532,000	418	1,608	35.7	1,644
1955.....	6,808,389,000	153,087,000	6,961,476,000	446	1,640	36.8	1,677
1956.....	7,593,525,000	171,280,000	7,764,805,000	486	1,688	38.0	1,726
1957.....	7,812,117,000	178,608,000	7,990,725,000	498	1,673	37.0	1,710

¹ Per capita figures are based on official estimates of population given at p. 163.

Finances, Employees and Earnings.—The steady increases in capitalization, income and expenditure of telephone companies together with the increases in number of employees and salaries and wages paid are shown for the years 1948-57 in Table 4. Provincial figures for 1957 are given in Table 5.

4.—Financial Statistics of Telephone Systems, 1948-57

Note.—Figures from 1911 are given in the corresponding table of previous Year Books beginning with the 1938 edition.

Year	Capital Stock	Funded Debt	Cost of Property and Equipment	Income	Expenditure	Net Income	Em- ployees	Salaries and Wages
	\$	\$	\$	\$	\$	\$	No.	\$
1948.....	194,465,399	238,762,614	615,941,540	150,533,349	131,570,434	18,962,915	38,851	77,497,980
1949.....	229,208,219	267,987,289	716,519,781	169,113,048	153,066,308	16,046,740	42,326	90,634,477
1950.....	274,088,405	286,752,783	806,826,198	198,823,483	178,193,661	20,629,822	45,396	102,093,078
1951.....	286,003,119	307,623,351	909,581,399	240,762,657	213,824,471	26,938,186	47,387	117,677,652
1952.....	335,575,292	378,628,224	1,027,527,807	279,001,814	244,506,402	34,495,412	48,207	131,370,832
1953.....	398,198,697	450,511,233	1,152,309,749	310,833,599	269,817,828	41,015,771	50,540	145,109,934
1954.....	418,237,016	498,231,715	1,301,545,688	340,623,170	296,384,292	44,238,878	51,929	159,329,238
1955.....	467,026,669	521,336,006	1,470,679,433	376,716,651	328,880,674	47,835,977	55,673	173,922,973
1956.....	549,266,657	583,795,407	1,672,363,570	422,370,206	366,117,634	56,252,572	60,121	193,992,142
1957.....	627,051,991	683,386,827	1,941,591,700	467,701,983	412,158,348	55,543,635	64,074	219,693,002

INCOME AND EXPENDITURE OF TELEPHONE SYSTEMS, 1948-57



5.—Financial Statistics of Telephone Systems, by Province, 1957

Province	Capital Liability	Cost of Property and Equipment	Income	Expenditure	Em- ployees	Salaries and Wages
	\$	\$	\$	\$	No.	\$
Newfoundland.....	8,918,565	11,815,622	1,951,385	1,408,313	464	969,823
Prince Edward Island.....	3,109,960	4,823,800	1,073,272	938,411	150	345,843
Nova Scotia.....	38,535,834	54,311,122	12,904,000	11,118,793	1,889	5,167,532
New Brunswick.....	39,370,913	54,672,707	10,804,970	9,546,794	1,689	4,763,030
Quebec.....	817,165,995 ¹	509,344,204	319,295,159 ¹	281,706,958 ¹	18,098	68,270,825
Ontario.....	18,121,838	777,982,160	10,586,112	9,237,746	24,768	87,087,716
Manitoba.....	69,785,469	107,875,881	17,473,393	16,772,527	3,347	9,999,713
Saskatchewan.....	72,811,662	98,835,884	19,835,832	18,065,350	2,056	6,802,227 ²
Alberta.....	78,157,203	121,730,293	25,493,438	20,828,646	3,796	12,031,398
British Columbia.....	164,396,379	200,166,827	48,263,306	42,514,058	7,814	24,239,287
Yukon.....	65,000	33,200	21,056	20,752	3	15,608
Totals.....	1,310,438,818	1,941,591,700	467,701,983	412,158,348	64,074	219,693,002

¹ Statistics of The Bell Telephone Company for both Quebec and Ontario are included under Quebec.

² Excludes wages and employees for rural systems.

Subsection 2.—Telegraphs*

The early history of telegraphic communication in Canada is given in the 1934-35, Year Book, p. 778.

Telegraph Systems.—At the end of 1957, the 11 telegraph and cable companies in Canada showed impressive gains over the preceding year. These systems, composed of lines owned by the Federal Government and the chartered railway and telegraph companies, increased their property and equipment to \$169,000,000, about 12.9 p.c. above that reported in 1956.

A new record was set in 1957 for operating revenues of \$44,797,000, up 10 p.c. from the previous high of 1956, but net earnings dropped 16.5 p.c. to \$5,304,334. Telegrams transmitted were down 6.0 p.c. from the 1956 total, but cablegrams showed a 6.2-p.c. increase. In proportion to population, Canadian facilities are among the most extensive in the world and the systems operate their combined 451,700 miles of wire under a great variety of climatic and geographic difficulties.

* Revised in the Public Finance and Transportation Division, Dominion Bureau of Statistics.

6.—Summary Statistics of Canadian Telegraphs, 1948-57

NOTE.—Figures from 1920 are given in the corresponding table of previous Year Books beginning with the 1938 edition.

Year	Gross Revenue	Operating Expenses	Net Operating Revenue	Pole-Line Mileage	Wire Mileage	Em- ployees ¹	Offices	Messages, Land ²	Cable- grams and Marconi- grams ³	Money Trans- ferred
	\$	\$	\$	miles	miles	No.	No.	No.	No.	\$
1948.....	19,422,788	20,292,402	Dr.869,614	50,958	405,640	9,093	4,679	19,013,468	1,579,679	11,512,194
1949.....	22,256,557	22,062,943	193,614	52,535	413,759	9,555	5,288	20,083,078	1,642,278	12,469,348
1950.....	23,922,225	22,545,625	1,376,600	51,999	414,943	9,757	5,277	20,477,775	1,687,721	12,733,989
1951.....	29,128,473	27,807,547	1,320,926	53,586	435,348	10,611	5,233	21,815,837	1,785,836	16,955,699
1952.....	33,093,843	31,617,156	1,476,687	52,609	437,581	11,272	5,256	21,614,196	1,934,433	19,514,490
1953.....	36,920,384	33,953,196	2,967,188	52,727	450,835	11,618	5,307	21,222,706	2,042,921	21,553,387
1954.....	38,203,590	33,203,942	4,999,648	46,284	434,178	10,629	5,015	19,906,354	2,105,513	21,550,372
1955.....	39,320,960	32,501,844	6,819,116	48,067	438,692	10,852	5,024	20,067,424	2,238,433	23,264,851
1956.....	40,720,213	33,688,888	7,031,325	48,062	442,891	10,833	4,934	20,381,641	2,429,895	24,295,308
1957.....	44,796,778	39,271,893	5,524,885	48,379	451,669	11,159	5,070	19,163,723	2,580,745	25,586,057

¹ Excludes commission operators.

² Includes messages to and from vessels on the Great Lakes and the St. Lawrence River and messages to and from stations.

³ Excludes relayed messages.

Submarine Cables.—Four cable companies operate submarine cables landing in Canada: Canadian Overseas Telecommunication Corporation (*see* p. 861); the Commercial Cable Company; the Western Union Telegraph Company; and the French Telegraph Cable Company. These companies operate to stations in the United Kingdom, Ireland, the United States, Bermuda, Australia, New Zealand, and St. Pierre and Miquelon Islands.

The Eastern Telephone and Telegraph Company owns and maintains radio relay and cable facilities between the United States boundary and the international boundary in transatlantic cables off Clarenville, Nfld. The number of cables operating between connected stations and the length of cables are given in the following table.

7.—Cable Landings in Canada, 1957

Company and Station	Cables	Nautical Miles
	No.	No.
Canadian Overseas Telecommunication Corporation—		
Halifax, N.S. to St. John's, Nfld.—St. John's, Nfld. to Porthecurnow, England.....	1	2,656
Halifax, N.S. to Horta, Azores—Horta, Azores to Porthecurnow, England.....	1	3,078
Bamfield, B.C. to Sydney, Australia.....	1	7,830
Bamfield, B.C. to Auckland, New Zealand.....	1	6,748
Halifax, N.S. to Bermuda.....	1	874
Sydney Mines, N.S. via Newfoundland, to Oban, Scotland.....	1	2,280
Commercial Cable Company—		
Canso, N.S. to St. John's, Nfld.....	2	912
Canso, N.S. to Far Rockaway, N.Y., U.S.A.....	3	2,893
Canso, N.S. to Horta, Fayal, Azores—Horta, Azores to Waterville, Ireland.....	2	3,426
St. John's, Nfld. to Waterville, Ireland.....	4 ¹	7,117
St. John's, Nfld. to Far Rockaway, N.Y., U.S.A.....	2	2,592
Eastern Telephone and Telegraph Company—		
Sydney Mines, N.S. to Terrenceville, Nfld.....	1	271
Terrenceville, Nfld. to Clarenville, Nfld.....	1	55
Western Union Telegraph Company—		
North Sydney, N.S. to St. Pierre and Miquelon Islands.....	3	594
North Sydney, N.S. to Island Cove, Nfld.....	2	635
North Sydney, N.S. to Colinet, Nfld.....	1	324
Canso, N.S. to Duxbury, Mass., U.S.A.....	1	575
North Sydney, N.S. to Canso, N.S.....	1	118
Hearts Content, Nfld. to Valentia, Ireland.....	3	5,658
Bay Roberts, Nfld. to Penzance, England.....	4	8,475
Bay Roberts, Nfld. to Horta, Azores.....	1	1,343
Bay Roberts, Nfld. to Hammel, N.Y., U.S.A.....	2	2,774
Placentia, Nfld. to St. Pierre and Miquelon Islands.....	2	250
Islands Cove Hut, Nfld. to St. Pierre and Miquelon Islands.....	1	130
French Telegraph Cable Company—		
Canso, N.S. to St. Pierre and Miquelon Islands.....	..	..

¹ One cable not operating.

Subsection 3.—Federal Government Telegraph and Telephone Services

There are some scattered settlements throughout Canada where commercial telephone and telegraph companies do not furnish service, yet where adequate communication must be provided in the public interest. The Federal Government, therefore, through the Minister of Transport, has assumed responsibility for such services as: telegraph and telephone connections to scattered settlements on Cape Breton Island; cable services to islands in the Bay of Fundy and Prince Edward Island; and a telephone service on the Magdalen Islands.

At Mar. 31, 1958, these telegraph and telephone services comprised 788.5 miles of pole line, 1,822.9 miles of open wire, 52 miles of aerial cable, 63.25 miles of submarine cable and seven radio stations. Telephone service was provided for 1,670 subscribers of whom 436 were served through lines connected to other company exchanges. There were 24,912 telegrams handled by this service in 1957-58, with operating expenses at \$313,489 and net revenues of \$66,272.

The Northwest Communication System formerly operated for the Government by Canadian National Telegraphs was fully entrusted to the latter for custody, management and operation effective Apr. 1, 1958. During the year ended Mar. 31, 1958, the system, which provides commercial telephone and telegraph services at airports, settlements and communities in northwest Canada, operated at a profit with revenues amounting to \$2,893,335 and expenditures totalling \$2,024,145.

Subsection 4.—Federal Government Meteorological Communications

Weather stations operated by the Meteorological Branch of the Department of Transport throughout Canada are linked coast-to-coast by means of teletype and in the remote northern areas by radio or radioteletype. The landline circuits are leased from commercial companies but some of the radio circuits are operated by the Federal Government.

Weather stations on the teletype network transmit their reports directly; other stations report *via* commercial facilities to the nearest station on the teletype line for transmission on the meteorological circuit. The reports are collected on a regional basis and then relayed to other parts of the country as required. There are two coast-to-coast half-duplex systems transmitting weather information, with main relay points at Vancouver, Edmonton, Winnipeg, Toronto, Montreal, Moncton, Halifax, Gander and Goose Bay. These main meteorological communication centres not only handle the distribution of weather information from Canada including the Arctic, but also effect international exchange with the United States and Europe and, through them, with all parts of the hemisphere. For the latter purpose, the Canadian Meteorological Branch and the British Meteorological Office share the cost of a leased duplex circuit in the transatlantic cable. Altogether, the Meteorological Branch uses over 39,000 miles of teletype circuits connecting 310 teletype offices.

In addition, facsimile is used to connect forecast offices in all parts of the country including radio facsimile to Arctic stations and ships at sea. This mode of communication permits certain functions of the forecast offices to be carried out at one central location and the processed data, in the form of weather maps, are then distributed throughout the country. The Canadian weather facsimile system is the only fully automatic system in the world. Chart transmissions from the Central Analysis Office in Montreal are made simultaneously to all parts of Canada. The equipment operates at 120 revolutions per minute, permitting a chart 22 x 18 inches to be transmitted in 18 minutes, with automatic sequential operation of the transmitter permitting charts of longer dimension. Altogether, the Meteorological Branch utilizes 14,000 miles of facsimile circuits, serving 64 forecast offices.

Subsection 5.—Federal Government Radio Communication Services

Radio in Canada traces its origin to the year 1900 when wireless telegraphy was introduced and placed under the jurisdiction of the Department of Public Works. The first commercial radio circuit was established between Chateau Bay, Que., and Belle Isle in the Strait of Belle Isle in 1901, replacing an underwater cable which was difficult to maintain. In the first days of radio there did not appear to be any necessity for special legislative control, but the growth of this new medium of communication was very rapid and the Wireless Telegraph Act of 1905 became the first legislation in Canada controlling radio communication.

Radio regulation and radio coast station services were under the jurisdiction of the Department of Public Works until 1909 at which time they were transferred to the Department of Marine and Fisheries where they remained until 1930, with the exception of the period 1914-22 when they were under the jurisdiction of the Department of Naval Services. In 1930, when a separate Marine portfolio was established, they became a Branch of that Department and then in 1936 a Division of the Air Services Branch of the newly formed Department of Transport. In 1936 an aviation radio service was organized within the Radio Division, and to it in 1948 was transferred the Government Telegraph and Telephone Service, which had been under the jurisdiction of the Department of Public Works since 1879. In 1950, the name was changed to Telecommunications Division, and later to Telecommunications Branch.

The present responsibilities of the Telecommunications Branch include the operation of radio aids to marine and air navigation, the regulation of all Canadian radio operations, the regulation of overseas cable communication services, the administration of the international telegraph regulations and operation of certain communication services for the public and for the handling of meteorological messages.

The radio activities of the Telecommunications Branch may be summarized as follows: (1) the administration of national and international radio laws and regulations and of regional agreements, involving the issuance of radio licences, inspection of radio stations, certification of radio equipment, examination of operators, allocation and monitoring of frequencies, study of radio wave propagation, compilation and settling of international accounts for radio messages, investigation and suppression of inductive interference to radio reception; and (2) construction, maintenance and operation of radio communication stations and radio aids to marine and air navigation.

National and international radio laws and regulations include: (1) the Broadcasting Act; the Radio Act and Regulations made thereunder; the radio provisions of the Canada Shipping Act and Ship Station Radio Regulations; (2) the International Telecommunications Convention and Radio Regulations annexed thereto; the Articles of the International Civil Aviation Convention applicable to aeronautical radio requirements; that part of the International Convention for the Safety of Life at Sea applicable to radio requirements for ships; the Inter-American Telecommunication Convention; the Inter-American Radio Agreement; the North American Regional Broadcasting Agreement; the Convention between Canada and the United States of America relating to the operation by citizens of either country of certain radio equipment or stations in the other country; and the Agreement between Canada and the United States of America for the promotion of safety on the Great Lakes by means of radio.

Licensing and Operation.—In all branches of radio, basic control is exercised over the right to establish a station, assignment of frequencies, operator standards, operating procedure, and general regulations concerning the manner in which radio stations are used.

Under the Broadcasting Act, the Board of Broadcast Governors regulates the establishment and operation of broadcasting networks, the activities of public and private broadcasting stations and the relationship between them, in the interest of providing a national broadcasting service of high standard, basically Canadian in content and character. While the Minister of Transport is the licensing authority under the Radio Act, the Broadcasting Act requires that applications for broadcasting station licences or for any change in an existing broadcasting station be referred to the Board of Broadcast Governors for its recommendation before being dealt with by the Department. Reasonably complete and technically acceptable applications are therefore referred to the Board of Broadcast Governors by the Department. Before such a licence may be issued, the approval of the Governor in Council is also required. With these exceptions, the technical control of broadcasting stations is carried out by the Telecommunications Branch of the Department of Transport.

The standard broadcast band is crowded with stations that are capable of interfering with one another over the entire North American region, particularly at night. A plan for the accommodation of the largest number of stations with the least interference was evolved as a result of extensive studies conducted by Canada, Cuba, the Dominican Republic, Haiti, the Bahama Islands, Mexico, and the United States and was embodied in the North American Regional Broadcasting Agreement.

Before a new standard broadcasting station can be licensed or before modifications can be made in an existing station, engineering briefs covering the selection or change of frequency, amount of power and design of the directional antenna system must be approved by the Department of Transport and notification sent to the signatory countries of the North American Regional Broadcasting Agreement. After the establishment or change is completed, proof of performance must be submitted to establish that the actual installation is in accordance with the approved plan.

Ten monitoring stations are maintained at suitable points across Canada to police and monitor the radio spectrum: to see that radio stations are complying with the procedure set forth for their particular service; to observe the emissions from stations and ensure that they comply with the rules applicable to their service; to detect non-licensed stations and ensure that stations are being used for the purpose for which they are licensed; to assist in the investigation of cases of inter-station interference; to make studies of spectrum occupancy with a view to finding spectrum space for new assignments; to make precise frequency measurements to determine if the operating frequencies of all classes of radio stations are within the tolerances as prescribed by domestic and international regulations. A mobile monitoring station is being equipped to carry out the investigation of those technical and operational aspects of emissions on frequencies that cannot be monitored by stations in fixed locations.

Under the Safety of Life at Sea Convention and the Canada Shipping Act, most passenger ships and larger cargo ships must be fitted with radiotelegraph or radiotelephone equipment, primarily for distress use. Approval is given for each make and model of equipment that comes up to the required standard and, in addition, the ship station as a whole is inspected after the licence is issued and periodically thereafter. Foreign ships are subject to inspection before sailing from Canadian ports to ensure that they conform with the requirements of the Safety of Life at Sea Convention. Also, certain passenger, cargo, and other ships plying the Great Lakes are inspected to ensure compliance with the requirements of the agreement between Canada and the United States for the promotion of safety on the Great Lakes by means of radio.

Standards have been developed for the installation of aircraft radio stations specifying in detail the techniques and materials that may be used, to ensure that such stations will satisfactorily perform the function for which they are intended. Inspections of radio stations aboard civil aircraft of all operational categories are carried out at prescribed periods. In-flight inspections of the radio communications and navigational aspects of proposed new air carrier operations, encompassing both land and oceanic routes, are also made as required.

Marine and aeronautical radio operator standards and related regulations are covered by international agreement. The International Telecommunication Convention prescribes the qualifications for radio operators on mobile stations and the Radio Act provides that all operators, both commercial and amateur, must pass examinations to prove their ability to operate the respective classes of stations on which they are engaged. Competent operators are required on all classes of stations in order that the technical requirements prescribed under international agreement be adhered to closely; they are particularly essential on ship and aircraft stations in the interests of safety of life.

Investigation and Suppression of Inductive Interference.—Under the Radio Act the use of electrical equipment that will produce harmful interference to radio reception is not permitted. The Telecommunications Branch of the Department of Transport maintains 63 cars equipped for measuring and locating sources of interference to broadcast,

television and other radio reception. In addition to locating the sources of interference, advice is given as to how it may be suppressed or eliminated. These cars operate from the permanent radio inspection offices located in 27 cities throughout Canada. During the year 1957, 11,820 sources of interference were located and suppression was obtained in all but a few cases. Power lines were the largest single source of interference, constituting 39 p.c. of the total. Apart from cases of actual interference, the Branch also gives technical advice and assistance to manufacturers of electrical apparatus, in an effort to reduce to acceptable levels the radio noise (interference) produced by such apparatus.

Recent amendments to the Radio Act provide for the prohibiting of the sale of electrical apparatus which will produce radio noise (interference) in excess of specified limits. Regulations specifying the limits to be met by particular types of apparatus are in preparation.

Another recent amendment to the Radio Act provides for exemption from the operation of the Act certain low-powered radio transmitting and receiving equipment which has been so Type Approved by the Department. Exemption Type Approval has been granted to a number of models of Garage Door Radio Controls, which consequently may be operated without the Radio Station Licence otherwise required.

Radio Revenue.—Regulations concerning the rendering and settlement of international accounts are contained in the International Telecommunication Convention and Regulations. Sources of revenue include commercial ship and inter-station messages handled by Departmental ship and land stations, radiotelegrams exchanged by foreign ships through Canadian coast stations, private commercial traffic *via* Departmental airway radio stations, and radio services rendered to aircraft of private airline companies by such stations. During the year ended Mar. 31, 1958, accounts with a gross value of \$449,792 were handled with respect to chargeable traffic *via* Marine Radio Stations consisting of 135,200 ship/shore radiotelegrams, 71,963 point-to-point messages and 25,960 duplex radiotelephone conversations. For air-to-ground and message communication services provided by aeronautical stations accounts were handled with a total value of \$582,824.

8.—Radio Revenue Collected by the Department of Transport, Year Ended Mar. 31, 1958

Stations	Revenue	Stations	Revenue
	\$		\$
Marine Stations—		Other Radio Revenue—concluded	
Private commercial messages and duplex radiophone calls	275,894	Licence fees (excluding private commercial broadcasting).....	380,146
Premium revenue.....	7,723	Rentals.....	269,461
		Miscellaneous.....	44,790
Aeronautical Stations—		Totals.....	1,531,511
Air-to-ground and message communication services.....	552,817		
Other Radio Revenue—		Collected from issue of private commercial broadcasting licences.....	443,050
Examination fees—Radiotelegraph Operators' Certificate of Proficiency.....	3,680		

Radio Services.—Services of the Telecommunications Branch of the Department of Transport in aid of marine and aeronautical navigation and meteorological radio communications are described in this Subsection. Details may be obtained on request from the Department of Transport, Ottawa.

Radio Aids to Marine Navigation.—Radio aids to marine navigation are provided for about 4,000 radio-equipped Canadian vessels and almost as many foreign ships using Canadian waters. A safety and communications service for shipping is provided covering the East and West Coasts, the Great Lakes, the St. Lawrence River and Gulf, Hudson Bay and Hudson Strait.

Coast Radio Stations provide a safety watch and communications service for ships at sea and provide, as well, regularly broadcast weather reports, storm warnings and notices of dangers to navigation. The stations carry out communications by radiotelegraph and/or radiotelephone, and many of them provide connections to land telephone lines so that ships may communicate directly with any telephone subscriber. At Halifax (CFH) and Vancouver (CKN), shortwave facilities are furnished for world-wide communications. These stations participate in the Commonwealth long-range ship communication scheme. The coast stations on Hudson Bay and Hudson Strait, in addition to the regular services, provide commercial communications for posts of the Hudson's Bay Company and various prospecting and development organizations, make weather observations, handle administrative traffic and assist aircraft with information, landing conditions and direction finding bearings.

Coast radio direction finding stations, operated on the Atlantic Coast and on Hudson Bay and Strait, enable ships to obtain a line of bearing from the station. No charge is made for this service. A chain of automatic radiobeacon stations is also maintained to provide a navigational aid to mariners by transmitting signals on which bearings may be taken by ships. These stations are arranged, where possible, in groups of three, transmitting on a common frequency but in proper time sequence so as to avoid interfering with one another. A navigator may thus obtain three bearings within three consecutive minutes and fix his location. For distance finding in foggy weather, a number of radio-beacons are synchronized with fog alarms at the same point. Ships may also request the transmission of signals from the coast stations for direction finding purposes.

Loran is a long-range radio aid to marine and air navigation which provides accurate fixes at distances up to 600 miles by day and 1,500 miles by night. Two Loran stations operate in Nova Scotia, three in Newfoundland and one on the West Coast. These stations, in conjunction with Loran stations of the United States Coast Guard, give service to ships and aircraft plying the North Atlantic and Pacific Oceans.

It has become general practice to equip merchant ships with *radar*, a valuable aid to marine navigation, and many important buoys are fitted with radar reflectors to increase their radar visibility. Two shore-based radar installations are in operation—one at Camperdown near the mouth of Halifax Harbour and the other on the Lion's Gate Bridge across the entrance to Vancouver Harbour.

Lighthouses, particularly at locations where they would otherwise be completely cut off from summoning help in case of illness, are provided with low-powered transceivers for use in emergencies. Lighthouse radiophone stations are organized into groups working into a control station. Ships at sea may obtain medical advice from any coast station. The messages are delivered to the port medical officer of the Department of National Health and Welfare and replies are transmitted to the ship free of charge. Radio and radar equipment used aboard vessels of the federal marine, pilotage and canal services, on vessels operated by the Department of Fisheries, the Department of Mines and Technical Surveys and the Department of National Revenue and on Canadian National Railway ferries is maintained by the Telecommunications Branch of the Department of Transport.

Radio Aids to Aeronautical Navigation.—Radio aids to air navigation are provided from coast to coast and from the Canada-United States border to the Arctic along and off the airways, and are used by many Canadian and foreign air carriers flying over Canadian territory. Trained engineers and technicians are assigned to six regional offices located at Vancouver, B.C., Edmonton, Alta., Winnipeg, Man., Toronto, Ont., Montreal, Que., and Moncton, N.B., to carry out the construction and efficient operation of facilities.

The principal radio aid to air navigation provided by the Department of Transport is the low-frequency *radio range station*, located approximately every hundred miles along airways. It provides specific track guidance to pilots by means of audible signals and the signals may also be used for the purpose of obtaining direction finding bearings. In addition, radiotelephone communications are provided between ground and aircraft, by which means pilots may obtain weather data, air traffic control instructions and other information concerning the safety of flights.

A number of very high frequency omni-directional ranges (VOR) are now being constructed. Unlike the existing radio range stations, this type of facility does not limit the aircraft using the station to one of four distinct courses, but enables the pilot to select any desired course. A six-station omni-range airway between Montreal, Que., and Windsor, Ont., with standard 200-watt installations located at Montreal, Ottawa, Stirling, Toronto, London and Windsor is in operation. In addition, installations at Wiarton, Winnipeg, Brandon and Broadview have been commissioned, and others at Gander and Lumsden are on test. Work is progressing on twenty-one other installations.

Aeronautical radiobeacon stations provide radio signals with which pilots may use their direction finding equipment to obtain relative directional bearings. *Fan markers*, operating on very high frequencies, are usually placed on an airway so as to inform the pilot when he may safely lose altitude after passing high terrain or to indicate accurately the distance from an airport. *Station location markers* are similar to fan markers except that the signal radiated is such that aircraft may receive the same indication irrespective of the direction of flight. They are installed at the same location as a radio range to enable a pilot to determine when he is exactly over the station, thus obtaining definite indication of position. Station location markers are installed at most radio range sites.

Long-range (150 nautical-mile) *surveillance radars* are being installed at 15 major airports from Halifax to Vancouver for air traffic control purposes. Short-range (40 nautical-mile) radars are operating at Winnipeg and Vancouver airports. A 50-mile range surveillance radar at Gander forms part of a complete ground controlled approach radar facility.

Instrument landing systems provide radio signals which, when received by special radio equipment aboard aircraft, permit pilots to approach airports for landing during periods of very low visibility. An installation normally consists of a localizer transmitter providing lateral guidance to the runway, a glide path transmitter for slope guidance to the approach end of the runway, two marker transmitters giving distance indications from the runway and a low-power radiobeacon (compass locator) to assist in holding procedures and lining up on the localizer course. The localizer and marker transmitters operate on very high frequencies, the glide path on ultra high frequencies and the compass locators on low and medium frequencies. Twenty-six instrument landing systems are in operation.

To assist in providing communication between aircraft and ground, *aeronautical radio communications stations* are located at strategic points across the country, including the Arctic. These stations, operating for the most part on high frequencies, provide communication to both domestic and international air carriers. The international communications stations form a major contribution on the part of Canada to international aviation. They may be grouped as follows: (1) communication for meteorological services; (2) communication for the air traffic control services; and (3) communication for the benefit of the airline operating agencies, with their aircraft and between their despatch offices.

External Telecommunication Services.—The Canadian Overseas Telecommunication Corporation was established in 1950 to maintain and operate, in Canada and elsewhere, external telecommunication services for the conduct of public communications by cable, radiotelegraph and radiotelephone and any other means of telecommunication between Canada and any other place, and between Newfoundland and any other part of Canada; to make use of all developments in cable and radio transmission and reception for external telecommunication services; to conduct investigations and research with the object of improving the telecommunication service generally and to co-ordinate Canada's external telecommunication services with the telecommunication services of other parts of the Commonwealth.

Soon after its establishment, the Corporation embarked on a program of expansion of overseas services designed to meet anticipated requirements of the future. In November 1953, the Corporation, on behalf of Canada, entered into an agreement with interests in the United States for the construction and maintenance of a transatlantic telephone cable. The laying of the first section of the cable started from Clarendville, Nfld., in June 1955, and the whole system was placed in service on Sept. 25, 1956. Total cost of the project amounted to approximately \$40,000,000 of which the Corporation's share was about one-tenth. A second transatlantic cable will be laid by 1961 and will be financed by the United Kingdom and Canadian Governments. It will provide 60 telephone circuits, each capable of being transposed into 48 telegraph circuits.

Transpacific radiotelephone and radiotelegraph services began operating from Vancouver to Australia and New Zealand on Nov. 1, 1956. Direct radiotelegraph service to Japan commenced in June 1957. Augmentation of overseas radiotelegraph facilities at Yamachiche and Drummondville, Que., became necessary as a result of the expansion of existing services and the introduction of new direct radiotelegraph circuits.

In December 1956, the Corporation initiated and brought into service International Telex, an overseas teleprinter switching system by means of which the user can teletype directly to a correspondent. Service is available across Canada. During 1958, the Corporation extended the International Telex Service to Japan, Australia and New Zealand.

Subsection 6.—Other Government, Miscellaneous and Commercial Radio Communication Services

Radio services have been established by all provincial governments, mainly for police, highway and forestry protection purposes.

Municipal government departments have steadily increased their use of radio to facilitate operations. This increase is noted in all municipal services using radio as a medium of communication with vehicles, i.e., police, fire, engineering, hydro, etc. In addition, the trend toward expansion in the employment of radio for urban mobile communication has shown no signs of abating. Such services as taxi, heavy construction, ready-mix concrete, oil pipeline construction and operation, veterinarian and rural medical have participated extensively in this increase.

Public utilities, power companies; provincial power commissions, oil exploration and mineral development organizations have considerably expanded their use of radio in both urban mobile and point-to-point radio fields.

Commercial Radio Communication Services.—The North-West Telephone Company operates a radiotelephone service between points in British Columbia. Under licences granted by the Department of Transport, the Company has established a number of permanent public commercial radiotelephone stations that are authorized to provide communication to private commercial radiotelephone stations located at isolated points in the province. The Company is also licensed to establish limited coast stations at Lulu Island, Powell River, Vancouver, Nanaimo, Victoria, Harrison Lake, Parksville, Alert Bay, Campbell River, Hardwicke Island, Halberg, Sumas Mountain and Prince Rupert, to provide a ship-to-shore service. These stations, used in conjunction with the ordinary telephone exchange, provide a duplex-radiotelephone service to isolated points and to certain ships at sea. They also provide a limited amount of service to stations of the land mobile category. The North-West Telephone Company is also licensed to provide emergency radiotelephone communication at any point in British Columbia and to carry out tests for extending the existing radiotelephone service throughout the province.

The North-West and British Columbia Telephone Companies have extended and expanded their multi-channel radio systems serving both the coastal and interior areas.

To provide trans-river communication in the lower St. Lawrence area, the following companies operate stations in the Province of Quebec at La Malbaie, Tadoussac, Rivière du Loup, Rimouski, Matane, Montmagny, St. Antoine, Île aux Grues, Cap Chat, Forest-

ville, Trinity Bay, Sept Îles, Baie Comeau, Clarke City, Gaspe Copper Mines, Mont Louis, Chicoutimi and Tour à Pica: La Compagnie de Téléphone de Charlevoix et Saguenay, La Compagnie de Téléphone de Kamouraska, the Quebec Telephone Corporation, Gulf of St. Lawrence Telephone Company and La Compagnie du Téléphone Saguenay.

In the Maritime Provinces there has been a general expansion of radio service provided by the telephone companies serving those areas.

The wire facilities between Saint John, N.B., and Digby, N.S., between Saint John, N.B. and Halifax, N.S., between Red Head, N.B., and Mount Hanley, N.S., between Lutz Mountain (Moncton), N.B., and Egmont, P.E.I., and between Charlottetown, P.E.I., and New Glasgow, N.S., are supplemented by radiotelephone connections. Stations at Saint John, Red Head, and Lutz Mountain (Moncton) are operated by the New Brunswick Telephone Company. The terminals at Digby, Halifax, New Glasgow and Mount Hanley are operated by the Maritime Telephone and Telegraph Company. The stations at Charlottetown and Egmont are operated by the Island Telephone Company.

The Bell Telephone Company of Canada provides a land mobile terminal radiotelephone service at numerous points in Ontario and operates a microwave link between Toronto and Ottawa, Ont., and Montreal, Que., which carries television programs and is capable of providing many additional telephone circuits. Radio links are also maintained between Pelee Island and Leamington, Ont., and across the St. Lawrence between Sorel and Joliette, Que. The Bell Telephone Company has continued to expand its microwave radio services in the Provinces of Ontario and Quebec and has completed an extension of commercial radio service to Goose Bay, Labrador. Plans have been made for the further extension of the latter service.

The Canadian National Railway Company operates an extensive radiotelegraph and radiotelephone service in Newfoundland including links between Red Cliffs, Cape North, N.S., and Sydney, N.S. This Company is also authorized to provide a limited coast-station service at Port aux Basques, Nfld. The Canadian National Railway Company and the Canadian Pacific Railway Company have jointly established microwave circuits between Toronto and Windsor, and between Montreal and Quebec City.

The Avalon Telephone Company operates public commercial stations in Newfoundland to supplement its wire lines and to provide telephonic communication with isolated communities.

The Manitoba Telephone System operates radiotelephone links involving stations at the following points: Riverton, Manigotagan, Hecla Island, Gimli, Norway House, Bissett, Great Falls, The Pas, Snow Lake and Winnipeg. In addition, the System operates stations at Gimli, The Pas and Norway House to provide terminal service for ships operating on Lake Winnipeg.

Norwesto Communications Limited operates a public commercial radiotelephone service to provide telephonic communication to privately owned stations at isolated points throughout the northwestern part of Ontario. Stations are located at Kenora, Red Lake, Ball Lake, Sioux Narrows, Dryden, Sioux Lookout, Minaki and Redditt, which are used in conjunction with the ordinary telephone exchanges.

The Red Lake Telephone Company operates a public commercial radiotelephone station at Madsen, Ont., to provide a connection between the local wire telephone system and the Norwesto Communications Limited network.

The Okanagan Telephone Company operates a public radiotelephone service between Revelstoke and Arrowhead, B.C., and a public commercial terminal station at Kelowna to provide telephonic communication to privately owned stations at isolated points in the Kelowna area.

The Alberta Department of Telephones has completed the installation of multi-channel microwave systems from Edmonton to Peace River and Edson, respectively. It has also expanded the existing radio services which it provides throughout the Province of Alberta. The Saskatchewan Government Telephones in the Province of Saskatchewan and the Manitoba Telephone System in the Province of Manitoba are constructing major microwave extensions to serve the Yorkton and Estevan areas in Saskatchewan and the Flin Flon and The Pas areas in Manitoba. In addition, the Manitoba Telephone System has completed a microwave extension from Winnipeg to Fargo, North Dakota, in co-operation with the United States common carrier in that State.

The Pacific Great Eastern Railway Company has inaugurated service on a multi-channel microwave system in the interior of British Columbia extending from Clinton to the Fort St. John/Dawson Creek area.

Restricted common carrier mobile radio systems for the provision of public communication service to land vehicles have been established in all major centres throughout Canada.

Subsection 7.—Radio and Television Broadcasting

Broadcasting in Canada as it has developed over a period of some forty years is a combination of public and private enterprise. Under the Broadcasting Act, proclaimed Nov. 11, 1958, authority for the national broadcasting system is vested in a Board of Broadcast Governors, consisting of three full-time members and twelve part-time members appointed by the Governor in Council. Under the Act, this Board is empowered to "regulate the establishment and operation of networks of broadcasting stations, the activities of public and private broadcasting stations in Canada and the relationship between them and provide for the final determination of all matters and questions in relation thereto". The powers of the Board of Broadcast Governors include making and enforcing of broadcasting regulations, recommending to the Governor in Council on licensing matters, and ruling on matters of dispute between broadcasters.

Part II of the Broadcasting Act provides authority for the publicly owned Canadian Broadcasting Corporation. The Corporation, consisting of a President and a Vice-President and nine other directors appointed by Governor in Council, is established "for the purpose of operating a national broadcasting service". CBC is accountable to Parliament through a Cabinet Minister designated by Governor in Council. The CBC is empowered to establish and maintain program networks and stations.

As of Mar. 31, 1958, there were 22 CBC radio stations and 10 CBC television stations; 98 privately owned radio stations and 36 privately owned television stations. All the privately owned television stations and many of the privately owned radio stations are affiliated with the CBC and help to distribute national radio and television services over five networks operated by the CBC—in radio, the Trans-Canada, French and Dominion networks, and in television, the English and French networks.

Radio Broadcasting Facilities.—As stated above, the CBC operates three networks: the Trans-Canada and Dominion networks serving English language audiences from the Atlantic to the Pacific, and the French language network extending from Moncton, N.B., to Edmonton, Alta. As at Mar. 31, 1958, the Trans-Canada network was made up of 26 basic stations—13 CBC-owned and 13 privately owned. There were 19 supplementary stations, four of which were CBC-owned Newfoundland stations. The Dominion network consisted of 31 basic stations of which 30 were privately owned. Nineteen supplementary privately owned stations also received Dominion network service. The French network had five basic stations, four of which were CBC-owned and one privately owned, and 20 privately owned affiliated supplementary stations.

Table 9 lists the broadcasting stations of the CBC radio networks.

9.—Broadcasting Stations of CBC Radio Networks, as at Mar. 31, 1958

NOTE.—The stations marked with an asterisk (*) are CBC-owned. The symbols used in the Power column have the following meanings: DA-1, one directional antenna both day and night; DA-2, two directional antennae, one in daylight, the other at night; DA-N, single directional antenna used at night only. Wattage of some stations differs between day and night as shown.

Station Location		Frequency	Power	Station Location		Frequency	Power
		kc.	watts			kc.	watts
Trans-Canada Basic Network—				Dominion Basic Network—			
*CBI	Sydney.....	1,140	5,000	concluded			
*CBH	Halifax.....	1,330	100	CFCO	Chatham.....	630	1,000 DA
*CBA	Sackville.....	1,070	50,000	CFPA	Port Arthur.....	1,230	250
CHSJ	Saint John.....	1,150	5,000 DA-N	CJRL	Kenora.....	1,220	1,000
CFNB	Fredericton.....	550	5,000 DA-N	CKRC	Winnipeg.....	630	5,000 DA-N
*CBM	Montreal.....	940	50,000	CKX	Brandon.....	1,150	1,000
*CBO	Ottawa.....	910	5,000 DA	CJGX	Yorkton.....	940	10,000 D
*CKWS	Kingston.....	960	5,000 DA				1,000 N
*CBL	Toronto.....	740	50,000	CKBI	Prince Albert.....	900	10,000 DA-2
CFCH	North Bay.....	600	1,000 DA	CFQC	Saskatoon.....	600	5,000 DA-N
CJKL	Kirkland Lake.....	560	5,000 DA	CHAB	Moose Jaw.....	800	5,000 DA
CKGB	Timmins.....	680	5,000 DA-N	CKRM	Regina.....	980	5,000 DA-N
CKSO	Sudbury.....	790	5,000 DA-N	CFRN	Edmonton.....	1,260	5,000
*CBE	Windsor.....	1,550	10,000 DA	CFCN	Calgary.....	1,060	10,000 DA-N
CJIC	Sault Ste. Marie.....	1,050	250	CHWK	Chilliwack.....	1,270	1,000 DA
*CKPR	Fort William.....	580	1,000	CJOR	Vancouver.....	600	5,000 DA
*CBW	Winnipeg.....	990	50,000	CJVI	Victoria.....	900	5,000 DA-1
*CBK	Regina.....	540	50,000				
*CBX	Edmonton.....	1,010	50,000	Dominion Supplementary—			
*CBXA	Edmonton.....	740	250	CHML	Hamilton.....	900	5,000 DA-N
CJOC	Lethbridge.....	1,220	10,000 D	CKTB	St. Catharines.....	620	1,000 DA
			5,000 DA-N	CFOR	Orillia.....	1,570	10,000 D
CFJC	Kamloops.....	910	1,000				1,000 N
CKOV	Kelowna.....	630	1,000	CHNO	Sudbury.....	900	1,000 DA-N
CJAT	Trail.....	610	1,000	CHAT	Medicine Hat.....	1,270	1,000 DA
*CBU	Vancouver.....	690	10,000	CJIB	Vernon.....	940	1,000
*CFPR	Prince Rupert.....	1,240	250	CFOB	Fort Frances.....	800	1,000 D
							500 N
Trans-Canada Supplementary—				CKCV	Quebec.....	1,280	5,000 DA-1
*CBN	St. John's.....	640	10,000	CKSF	Cornwall.....	1,230	250
*CBY	Corner Brook.....	790	1,000	CJBQ	Belleville.....	800	1,000 DA-1
*CBG	Gander.....	1,450	250	CKCR	Kitchener.....	1,490	250
*CBT	Grand Falls.....	990	1,000	CJCS	Stratford.....	1,240	250
CKBW	Bridgewater.....	1,000	1,000 DA-N	CKPC	Brantford.....	1,380	1,000 DA-N
CKMR	Newcastle.....	790	1,000 DA-1	CKNX	Wingham.....	920	1,000 DA-N
CJQC	Quebec.....	1,340	250	CFOS	Owen Sound.....	1,470	1,000 DA-N
CKOC	Hamilton.....	1,150	5,000 DA	CKLW	Windsor.....	800	50,000 DA
CHLO	St. Thomas.....	680	1,000 DA	CKRD	Red Deer.....	850	1,000
CHOK	Sarnia.....	1,070	5,000 D	CKLC	Kingston.....	1,380	5,000 DA-2
			1,000 DA-N	CKOK	Penticton.....	800	1,000 D
CFAR	Flin Flon.....	590	1,000				500 N
CFGP	Grande Prairie.....	1,050	10,000 DA-1	French Basic Network—			
CKLN	Nelson.....	1,240	250	*CBI	Chicoutimi.....	1,580	10,000 DA
CKPG	Prince George.....	550	250	*CBV	Quebec.....	980	5,000
CJDC	Dawson Creek.....	1,350	1,000	*CBF	Montreal.....	690	50,000
CJCA	Edmonton.....	930	5,000 DA-N	*CBAF	Moncton.....	1,300	5,000 DA-1
CKCK	Regina.....	620	5,000 DA-N	CHNC	New Carlisle.....	610	5,000 DA
CFAC	Calgary.....	960	5,000 DA-N				
CKEC	New Glasgow.....	1,230	250	French Supplementary—			
Dominion Basic Network—				CJEM	Edmundston.....	1,380	1,000 DA
CJCB	Sydney.....	1,270	5,000 D	CJBR	Rimouski.....	900	10,000 DA-N
			1,000 N	CHLT	Sherbrooke.....	900	1,000 DA-N
CHNS	Halifax.....	960	5,000 DA-N	CHGB	Ste. Anne de la Poca-	1,350	1,000 D
CJFX	Antigonish.....	580	5,000 DA		tière.....		250 N
CJLS	Yarmouth.....	1,340	250	CKCH	Hull.....	970	5,000 DA-1
CFCY	Charlottetown.....	630	5,000 DA-N	CJFP	Rivière du Loup.....	1,400	250
CKCW	Moncton.....	1,220	10,000 DA-N	CKVD	Val d'Or.....	1,230	250
CFBC	Saint John.....	930	5,000 DA	CHAD	Amos.....	1,340	250
CKNB	Campbellton.....	950	1,000 DA	CKRN	Rouyn.....	1,400	250
CKTS	Sherbrooke.....	1,240	250	CKLS	La Sarre.....	1,240	250
CFTS	Montreal.....	600	5,000 DA	CKLD	Thetford Mines.....	1,230	250
CKOY	Ottawa.....	1,310	5,000 D	CFCL	Timmins.....	580	1,000 DA
			1,000 DA-N	CKSB	St. Boniface.....	1,250	1,000 DA
CHOV	Pembroke.....	1,350	1,000 DA	CHFA	Edmonton.....	680	5,000 DA
CFJR	Brockville.....	1,450	250	CFNS	Saskatoon.....	1,170	1,000 DA-1
CHEX	Peterborough.....	980	5,000 DA	CFRG	Gravelbourg.....	710	5,000 D
*CJBC	Toronto.....	860	50,000				2,230 N
CFPL	London.....	980	5,000 DA	CHNO	Sudbury.....	550	1,000 D
				CKBL	Matane.....	1,250	5,000 DA-1
				CKVM	Ville Marie.....	710	1,000 DA-N
				CKRB	Ville St. Georges.....	1,400	250

Television Broadcasting Facilities.—As at July 1, 1958, there were 31 basic television broadcasting stations in operation on the English network. On the French network, nine stations were in operation (two of which were CBC-owned). These stations were located and powered as follows:—

10.—Broadcasting Stations of CBC Television Networks as at July 1, 1958

NOTE.—Asterisks denote non-connected stations.

Station Location		Chan- nel	Power		Station Location		Chan- nel	Power	
			Video	Audio				Video	Audio
			kw.	kw.				kw.	kw.
English Network—					English Network—concluded				
Atlantic Region—					Mid-eastern Region—concluded				
*CJON-TV	St. John's, Nfld...	6	21	11	CJIC-TV	Sault Ste. Marie,			
Satellite	Argentina, Nfld....	10	0.5	0.2		Ont.	2	28	15
CFCY-TV	Charlottetown,				CFCJ-TV	Port Arthur, Ont.	2	28	15
	P.E.I.	13	79	39.5	Prairie Region—				
CBHT	Halifax, N.S.	3	100	60	CBWT	Winnipeg, Man....	3	57.8	34.7
CJCB-TV	Sydney, N.S.	4	180	108	CKX-TV	Brandon, Man....	5	19.3	9.6
CKCW-TV	Moncton, N.B.	2	25	15	CKCK-TV	Regina, Sask.	2	100	53
CHSJ-TV	Saint John, N.B..	4	100	50	CFQC-TV	Saskatoon, Sask..	8	100	60
Mid-eastern Region—					CHCT-TV	Calgary, Alta.	2	100	50
CBLT	Toronto, Ont.	6	99.5	53.5	CFRN-TV	Edmonton, Alta..	3	180.3	90
CHEX-TV	Peterborough,				CJH-TV	Lethbridge, Alta.	7	171	85.5
	Ont.	12	260	156	Pacific Region—				
CKWS-TV	Kingston, Ont....	11	257	154	CBUT	Vancouver, B.C...	2	89.4	47.8
CBOT	Ottawa, Ont.	4	50	26.7	CHEK-TV	Victoria, B.C.	6	1.8	0.9
CBMT	Montreal, Que.	6	43.8	26.2	French Network—				
CHCH-TV	Hamilton, Ont....	11	150	90	CBFT	Montreal, Que.	2	100	50
CKCO-TV	Kitchener, Ont....	13	100	54.5	CBOFT	Ottawa, Ont.	9	55	31
CFPL-TV	London, Ont.	10	325	195	CHLT-TV	Sherbrooke, Que..	7	300	186
CKN-TV	Wingham, Ont....	8	36	19.5	CKTM-TV	Trois Rivières,			
CKLW-TV	Windsor, Ont.	9	325	180		Que.	13	6.5	3.2
CKVR-TV	Barrie, Ont.	3	27	13.5	CFCM-TV	Quebec, Que.	4	12.7	6.3
CKGN-TV	North Bay, Ont..	10	51.5	25.7	*CKRS-TV	Jonquière, Que....	12	42	21
CKSO-TV	Sudbury, Ont....	5	30	16	*CJBR-TV	Rimouski, Que....	3	60	34.5
Satellite	Elliot Lake, Ont..	3	4	2	CKBL-TV	Matane, Que.	9	280	170
CFCL-TV	Timmins, Ont....	6	18.5	9.2	*CKRN-TV	Rouyn, Que.	4	50	25
Satellite	Kapuskasing, Ont.	3	0.05	0.02					
Satellite	Elk Lake, Ont....	2	3.5	1.8					

¹ The Atlantic Region includes two non-connected low-power relay stations—CFSN-TV, Stephenville, Nfld. and CFLA-TV, Goose Bay, Labrador.

It was estimated that at the end of March 1958 more than 86 p.c. of all Canadians were within reach of the national television system. Microwave facilities linking television stations from coast to coast for instantaneous telecasting of programs went into full operation July 1, 1958. When television broadcasting began in September 1952, 146,000 television sets were in use in Canada. One year later the number had tripled and by March 1958 more than 3,000,000 receivers were in use in Canadian homes.

Canadian Broadcasting Corporation Service.—The Corporation's Head Office is located at Ottawa and provides over-all direction for the English and French language television and radio services through the CBC's seven operations divisions: British Columbia; Prairies; Ontario and English networks; Quebec and French networks; Maritimes; Newfoundland; and the International Service. To give expression to varying interests across Canada, the CBC maintains offices and production facilities at St. John's, Nfld., Sydney and Halifax, N.S., Moncton, N.B., Chicoutimi, Quebec and Montreal, Que., Ottawa, Toronto and Windsor, Ont., Winnipeg, Man., Regina, Sask., Edmonton, Alta., and Vancouver and Prince Rupert, B.C.

Domestic Radio Program Service.—During the year ended Mar. 31, 1958, about 1,617 programs representing 497.5 hours of broadcasting were presented each week over the CBC Trans-Canada, Dominion and French radio networks. Of the total broadcasting hours in 1957-58, 71 p.c. was scheduled on the Trans-Canada network; the Dominion network released 6 p.c. and the remainder was released on the French network.

The CBC originated and produced 94 p.c. of its network broadcasts. Of the remainder, 1 p.c. came from private stations and 5 p.c. were exchange programs from the United States and the British Broadcasting Corporation. An analysis of network programs by categories for 1957-58 shows that a large proportion of CBC radio network time was devoted to music—an estimated 44 p.c.; 61 p.c. of programs broadcast were predominantly entertainment programs (music, drama, sports, creative arts, etc.); 25 p.c. were predominantly information programs (news and weather, farm and fisheries, science, nature, etc.); and 14 p.c. were predominantly idea or opinion programs. Table 11 presents an estimate of the hours of radio programs by category. The figures are based on programs on all three CBC radio networks, 'live', recorded, or recorded for later presentation. They do not include the 'delayed' presentation of programs that are transmitted at different times by different sections of the network to meet the convenience of listeners in the various time zones. However, they do include regional programming presented on sections of the network exclusively for listeners in the areas served by such regional breakdowns of the network. The classifications in this table are based on the predominant function of each program although many programs serve more than one interest at the same time.

11.—Classification of CBC Radio Programs, Year Ended Mar. 31, 1958

Class of Program	Hours per Week	Distribution of Hours	Class of Program	Hours per Week	Distribution of Hours
	No.	p.c.		No.	p.c.
Music, light.....	154	31	School and youth education.....	15	3
Music, serious.....	59	12	Political and controversial.....	8	2
News and weather.....	59	12	Miscellaneous information.....	14	3
Miscellaneous entertainment.....	41	8	Other countries.....	7	2
Drama.....	35	7	Social and human relations.....	3	--
Farm and fisheries.....	26	5	Science and nature.....	1	--
Canadian ideas and heritage.....	20	4	Other.....	3	--
Religious.....	20	4			
Home and hobby.....	15	3			
Sports.....	18	4	Totals.....	498	100

Domestic Television Program Service.—During the year ended Mar. 31, 1958, the CBC English-language television network presented 54.25 hours of programming a week. Of this, 57 p.c. was produced by CBC, 39 p.c. was drawn from sources in the United States, 2 p.c. from non-CBC sources in Canada, and 2 p.c. from the United Kingdom and other countries. Of the 65.2 hours presented by the CBC French-language television network each week, 72 p.c. originated with the CBC, 3 p.c. with other Canadian sources, and 15 p.c. with sources in France. The remaining 10 p.c. was procured in the United States, the United Kingdom and other countries.

12.—Classification of CBC Television Programs, Year Ended Mar. 31, 1958

Class of Program	Hours per Week	Distrib- ution of Hours	Class of Program	Hours per Week	Distrib- ution of Hours
	No.	p.c.		No.	p.c.
Drama.....	51	44	Science and nature.....	3	2
Variety and other entertainment...	14	12	School and youth education.....	3	2
Sports.....	11	9	Political and controversial.....	5	4
News and weather.....	7	6	Home and hobby.....	2	2
Canadian ideas and heritage.....	2	2	Farm and fisheries.....	2	2
Music, light.....	6	5	Other.....	1	--
Other countries.....	4	3			
Social and human relations.....	1	1			
Miscellaneous information.....	5	4			
Religious.....	3	2			
			Totals.....	119	100

¹ Less than one hour.

Radio and Television Talent.—The CBC is the main single outlet for Canadian talent in the fields of music, drama and other entertainment. In the year ended Mar. 31, 1958, 16,801 artists were employed by the Corporation. During the year, the CBC spent approximately \$12,691,146 for talent—\$9,961,995 for radio and \$6,555,309 for television. Of the total, \$2,729,150 was for scripts, performing rights, music and musical arrangements. The remainder was in the form of direct fees to musicians, singers, actors and other performers. These figures cover 'outside' or non-staff talent and do not include CBC personnel in such categories as producers and directors, scenery, graphics and costume designers, and film editors and commentators.

CBC International Service.—The International Service, which is operated by the Canadian Broadcasting Corporation on behalf of the Government of Canada, broadcasts information about Canada and other radio programs to shortwave listeners in many countries of the world. Programs are transmitted in sixteen languages—English, French, German, Spanish and Portuguese (to Latin America), Dutch, Italian, Danish, Norwegian, Swedish, Czech, Slovak, Russian, Ukrainian, Polish and Hungarian.

The Service is fully financed through annual grants by Parliament and has its headquarters and studios in the Radio Canada Building in Montreal. Programs are sent by landlines from the studios in Montreal to Sackville, N.B., six hundred miles away. Sackville is the site of the Service's two 50-kw. shortwave transmitters and directional antenna array system. Broadcasts were officially inaugurated on Feb. 25, 1945, and one of the principal purposes of the programs at that time was to provide information and entertainment to the members of the Canadian Armed Forces in Europe. Later, programs were designed to give people in other countries a word picture of Canada and the Canadian viewpoint in world affairs.

Regular programs are broadcast to Europe, Latin America and North America as well as to the Caribbean, Australia and New Zealand. Broadcasts are on the air about 100 hours a week; in the main, programs consist of news, commentaries, interviews, talks and other related topical material. Through the use of supplementary facilities, special programs are sent to the countries of the Commonwealth and elsewhere when the occasion warrants it. Some of the shortwave programs from Canada are rebroadcast by the Canadian Army Radio Station CAE in Werl, Germany, and by other radio organizations. The shortwave transmitters at Sackville are also employed to transmit programs to Canada's Far North beyond the normal signal range of the CBC domestic transmitters in Canada. A recorded radio program service is provided regularly to Austria, Greece and Finland for use on the radio broadcasting facilities of those countries.

In addition to the transmitted service, the International Service provides transcriptions free of charge to radio organizations outside Canada. These include music by Canadian composers and performers, and Spoken-Word Transcriptions in English, French and Spanish. The Spoken-Word Transcription Service includes plays, documentaries, talks, biographical sketches, folklore and other programs designed to give a word picture of Canada, past and present.

Letters and other communications from listeners are being received at the rate of between 25,000 and 30,000 a year at the present time. The International Service replies in the language of the letter-writer and forwards printed information on a variety of subjects. Seven times yearly the International Service publishes an illustrated Program Schedule which is printed in the languages of the shortwave programs and contains program information, and times and frequencies of the broadcasts. About 190,000 copies are distributed throughout the world.

Canadian Broadcasting Corporation Finances.—The operations for the year ended Mar. 31, 1958, resulted in an excess of expense over income of \$4,968,475 after providing \$2,276,719 for depreciation. The surplus of the radio and integrated services was \$18,828 as compared to a deficit of \$4,987,303 for the television service.

The Corporation's income from all sources was \$21,278,251 higher than the previous year. The increase in total revenue was offset by an advance in expenses of \$10,549,153, attributed to the development of the national television service and to the general rise in costs experienced by all industries.

13.—Income and Expenses of the CBC, Years Ended Mar. 31, 1957 and 1958

Item	1957	1958
	\$	\$
Income—		
Grants under Parliamentary appropriations.....	18,250,000	24,345,331
Grant under Section 14(4) of the Act.....	18,923,029	16,831,850
Commercial revenue (gross).....	23,694,163	28,410,514
Broadcasting licence fees.....	392,250	453,622
Interest on investments.....	305,540	209,387
Profit on sale of bonds.....	44,275	77,750
Miscellaneous.....	193,931	238,762
Totals, Income.....	61,803,188	70,567,216
Expenses—		
Programs.....	36,860,092	42,491,864
Engineering.....	9,451,903	11,410,983
Network transmission.....	3,115,545	4,612,870
Commissions to agencies and networks.....	3,846,158	4,790,221
Payments to private stations.....	3,465,287	4,089,174
Administrative.....	1,855,089	2,760,427
Commercial.....	730,625	836,987
Information services.....	920,470	1,059,800
Interest on loans.....	921,725	922,806
Amortization of improvements to properties held under lease.....	227,751	284,040
Totals, Expenses.....	61,394,645	73,258,972
Excess of Expenses over Income (before providing for depreciation).....	-408,543	2,691,756
Provision for depreciation.....	1,969,754	2,276,719
Excess of Expenses¹ over Income.....	1,561,211	4,968,475

¹ Included in the above expenses are \$72,000 for executive officers' remuneration, \$4,950 for honoraria for members of the Board of Governors and \$11,844 for legal expenses.

Privately Owned Stations.—As stated previously, privately owned broadcasting stations are subject to the Radio Act, the Canadian Broadcasting Act and Regulations made thereunder, and the provisions of the Radio Regulations annexed to the International Telecommunication Convention and Regional Agreements in effect in Canada. Since Mar. 31, 1923, private commercial broadcasting station licences have been required by government regulation and both sound and television broadcasting stations are now authorized by this class of licence.

Any application for a licence to establish a new private station or for an increase in power, change of channel, or change of location of any existing private station must be referred by the Minister of Transport to the Board of Broadcast Governors; the Board, after giving public notice thereof in the *Canada Gazette*, will make such recommendations to the Minister of Transport as it may deem fit. The approval of the Governor in Council must be obtained before any licence for a new private station is issued. Private commercial broadcasting station licences are conditional upon the ownership or control of the stations, and the shares of capital stock of licensed companies in certain instances may not be transferred without the permission of the Minister of Transport having been first obtained upon the recommendation of the Board of Broadcast Governors. Proof of performance statements showing public service, community service and light programming are filed annually with that Board. Organizational and financial statements are filed annually, on a confidential basis, with the Department of Transport.

The first sound broadcasting in Canada took place when a privately owned communications company in Montreal was authorized to transmit programs on an experimental basis during the latter part of 1918 and in the winter evenings of 1919 over its Station XWA. Under the first licensing regulations in the year ended Mar. 31, 1923, 34 licences were issued. By Mar. 31, 1958, the number had increased to 212, of which 177 were AM standard band stations, 27 were frequency modulated stations and eight were shortwave stations. Of the 177 standard band stations, four were operating with a power of 50,000 watts, 14 with 10,000 watts, 49 with 5,000 watts, one with 2,500 watts, 65 with 1,000 watts, one with 500 watts, 41 with 250 watts, and two with 100 watts.

A privately owned broadcasting station is required to pay to the Receiver General of Canada an annual licence fee based on the gross revenue for licence fee computation for the fiscal year of the station. Because the fiscal years of the privately owned stations end at different dates it is difficult to estimate the gross revenue of all stations for any one year. The Report of the Royal Commission on Broadcasting published in 1957 indicates that gross sales for 144 broadcasting stations amounted to approximately \$36,000,000 in 1955, all of which was obtained from commercial advertising.

The first privately owned television broadcasting station in Canada at Sudbury, Ont., was authorized to commence scheduled broadcasting on Oct. 20, 1953. By Mar. 31, 1958, 36 privately owned television stations were in operation (see Table 10).

International Agreements.—In 1937 a conference was held at Havana, Cuba, to review the broadcasting situation in the North American region and to develop a workable plan which would permit the growth of the broadcasting industry. The product resulting from the deliberations of that conference was the treaty known as the North American Regional Broadcasting Agreement which came into effect in 1941 and was extended by an instrument known as the *modus vivendi* or interim agreement signed at Washington in 1946. In 1949 and 1950, conferences were held at Montreal and Washington, and a new North American Regional Broadcasting Agreement was drafted in December 1950 which has been implemented as an administrative arrangement.

The Canadian-United States Television Agreement provides for the assignment and utilization of 82 television channels between 54 and 890 mc/s along the border between Canada and the United States of America, within an area of 250 miles on either side of the International Boundary. This Agreement provides that all station assignments within

its scope shall be made in accordance with the Agreement and shall have an effective radiated power in any vertical or azimuthal plane not in excess of 100,000 watts for Channels 2 to 6, of 325,000 watts for Channels 7 to 13 and of 1,000,000 watts for Channels 14 to 83.

Section 3.—The Post Office

The Canada Post Office Department was created at the time of Confederation in 1867 by the Canada Post Office Act to superintend and manage the postal service of Canada under the direction of a Postmaster General. For almost a century before Confederation, postal services in the Canadian provinces had been controlled by the British Postmaster General and administered by his deputies. Under the French régime a courier service had been organized as early as 1703 between Quebec, Trois Rivières and Montreal. In 1734 a post road was constructed over the same route and post houses, complete with post horses and vehicles, were established for the use of travellers. In 1851 the control of their post offices was assumed by the different provinces of British North America and at Confederation these systems merged to form the Canada Post Office.

Functions.—The basic tasks of the Canadian Postal Service are to receive, convey and deliver postal matter with security and dispatch. In discharging these duties it maintains post offices and utilizes air, railway, land and water transportation facilities; associated functions include the sale of stamps and other articles of postage, the registration of letters and other mail for dispatch, the insuring of parcels, the accounting for COD articles, and the transaction of money order and Post Office Savings Bank business. Because of its widespread facilities, it has been found expedient for the Post Office to assist other government departments in the performance of certain tasks including the sale of unemployment insurance stamps, the collection of government annuity payments, the distribution of income tax forms and Civil Service employment application forms, and the displaying of government posters.

Post offices are established wherever the population warrants. Those in rural areas and small urban centres transact all of the functions of the city office. In larger urban areas postal stations and sub-post offices have full functions similar to the main post office, including a general delivery service, lock-box delivery and letter-carrier delivery.

At Mar. 31, 1958, there were 11,768 post offices in operation compared with 11,879 in 1957. Letter-carrier delivery, performed in 152 urban centres, employed over 6,690 uniformed letter carriers. Postage paid in 1957-58 by means of postage stamps amounted to \$81,192,008 as compared with \$77,735,659 in 1957. Post office money orders, issued for any amount not exceeding \$100 and payable in almost any country of the world, were sold at more than 8,000 post offices and money orders payable in Canada only, for amounts not exceeding \$16, were sold at some 2,800 additional post offices. Post Office Savings Banks operate in all parts of the country and, on Mar. 31, 1958, had total deposits of \$34,895,729.

Organization.—The Canada Post Office includes an Operating Service and Headquarters at Ottawa. The Operating Service is organized into five regions each under a Regional Director, who is the field representative of the Deputy Postmaster General. There are five Headquarters Branches: Administration, Operations, Transportation, Financial, and Personnel—each under a Director. Operating and secretarial features in the operating field affecting the post offices and local mail services in urban centres are taken care of by the local postmaster. District office functions relating to services in the district and all inspections and investigations are under District Directors of Postal Services in strategic centres across the country.

Postal service is provided in Canada from Newfoundland to the west coast of Vancouver Island and from Pelee Island, Ont. (the most southerly inhabited point of Canada) to settlements and missions far into the Arctic. Canada's airmail system provides several transcontinental flights daily and constitutes a great air artery from St. John's, Nfld., to Victoria, B.C., intersected by branch lines and connecting lines radiating to every quarter and linking up with the United States airmail system. Since July 1, 1948, all

first class domestic mail up to and including one ounce in weight has been carried by air between one Canadian point and another, whenever delivery can thus be expedited. On Apr. 1, 1954, this service was extended to first class items up to and including eight ounces in weight. Air stage service provides the only means of communication for many areas in the hinterland. There were approximately 38,334 miles of airmail and air stage routes in Canada in 1958 as compared with 35,700 miles in 1957.

The principal means of mail transportation is the railway mail service that operates along about 27,930 miles of track and, in 1958, covered over 41,675,000 service-miles. A staff of 919 mail clerks prepared the mails for prompt delivery and dispatch while en route in the railway mail cars.

The rural mail delivery organization provided direct postal service over approximately 5,476 rural mail routes in 1958, extending over 130,000 route-miles and serving 480,848 rural mail boxes. Rural mail routes are generally circular in pattern and average about 24.5 miles in length. Considerable progress has been made towards the development of mail service by means of group boxes—a service intended for the more densely populated rural areas and for suburban residents not within the area of letter-carrier delivery service. About 3,352 side services were in operation in 1958 to transport mail between post offices, railway stations, steamer wharves and airports, and 2,143 stage services operated to convey mail to and from post offices not located on railway lines. Transportation of mail by motor vehicle on highways is being developed and over 307 such services are in operation, many of them replacing or reducing conveyance by rail. A local exchange of mails between offices on the route is effected by way-mail wallet. In 1958 there were approximately 805 city mail services transporting mail to and from post offices, postal stations and sub-post offices, collecting mail from street letter-boxes and delivering parcel post. The 10,971 land-mail service couriers employed travelled approximately 50,000,000 miles during the year. Land-mail services are performed under a contract system, the contracts being awarded to the person submitting the lowest tender and competent to provide all the requisite equipment.

Coastal mail service is conducted by 23 contractors who operate as far north along the West Coast as Alaska and on the East Coast to the northern part of Labrador.

Post Office Statistics.—Tables 14, 15 and 16 give the numbers of post offices in operation together with revenue and expenditure for recent years.

14.—Post Offices in Operation, by Province, as at Mar. 31, 1955-58

Province or Territory	1955	1956	1957	1958
	No.	No.	No.	No.
Newfoundland.....	626	636	640	641
Prince Edward Island.....	105	105	105	105
Nova Scotia.....	1,148	1,124	1,117	1,096
New Brunswick.....	789	736	703	676
Quebec.....	2,487	2,463	2,435	2,413
Ontario.....	2,654	2,644	2,627	2,616
Manitoba.....	822	815	817	810
Saskatchewan.....	1,347	1,332	1,318	1,310
Alberta.....	1,156	1,141	1,124	1,112
British Columbia.....	955	947	940	937
Yukon Territory.....	16	16	16	16
Northwest Territories.....	33	37	37	36
Canada.....	12,138	11,996	11,879	11,768

The increase in postal business is one of the impressive features of Canada's economic development during the past ten years. Gross revenue for the year ended Mar. 31, 1958, reached an all-time high.

15.—Revenue and Expenditure of the Post Office Department, Years Ended Mar. 31, 1949-58

NOTE.—Figures from 1868 will be found in the corresponding table of previous Year Books beginning with the 1911 edition.

Year	Gross Revenue	Net Revenue ¹	Expenditure ²	Surplus (+) or Deficit (—)
	\$	\$	\$	\$
1949.....	95,957,469	80,618,401	77,642,621	+2,975,780
1950.....	101,277,435	84,528,655	82,639,741	+1,888,914
1951.....	105,545,456	90,454,678	91,781,466	—1,326,788
1952.....	122,266,675	104,622,208	97,973,263	+6,648,945
1953.....	129,388,365	112,024,245	105,553,191	+6,471,054
1954.....	129,889,325	111,107,484	113,581,752	—2,474,268
1955.....	151,717,273	131,315,049	123,611,055	+7,703,994
1956.....	158,568,356	137,696,621	127,421,739	+10,274,882
1957.....	167,879,869	145,823,785	139,992,921	+5,830,864
1958.....	177,492,783	152,919,881	153,319,782	—399,901

¹ Gross revenue less commissions and allowances to postmasters, and other smaller items.
² Excludes rental of service staff and staff post offices.

³ Newfoundland included from 1950.

The gross revenue receipts shown in Table 15 are received mainly from postage, either in the form of postage stamps and stamped stationery, or postage meter and postage register machine impressions. Some postage is also paid in cash without stamps, stamped stationery or meter and register impressions. The gross value of the postage stamps and stamped stationery sold during each of the latest five fiscal years was: \$64,546,067 in 1953-54, \$74,583,720 in 1954-55, \$75,559,106 in 1955-56, \$77,735,659 in 1956-57 and \$81,192,007 in 1957-58. Receipts from postage meter or postage register impressions and postage paid in cash by other means were as follows: \$55,398,788 in 1953-54, \$65,516,441 in 1954-55, \$70,696,501 in 1955-56, \$78,041,479 in 1956-57 and \$83,706,744 in 1957-58.

16.—Gross Postal Revenue of Offices Collecting Upwards of \$10,000, Years Ended Mar. 31, 1957 and 1958

NOTE.—Money order commissions are not included in gross postal revenue. Provincial totals of postal revenue include post offices not separately listed.

Province and Post Office	1957	1958	Province and Post Office	1957	1958
	\$	\$		\$	\$
Newfoundland.....	1,578,986	1,645,263	Nova Scotia.....	4,883,169	5,095,323
Botwood.....	12,664	13,439	Amherst.....	96,172	98,772
Buchans.....	10,179	10,128	Annapolis Royal.....	16,612	17,121
Carbonear.....	10,746	11,531	Antigonish.....	63,841	66,595
Channel.....	10,946	11,954	Baddeck.....	11,479	11,238
Corner Brook.....	106,675	118,051	Bedford.....	15,395	16,712
Deer Lake.....	11,293	12,093	Berwick.....	14,281	15,320
Gander.....	44,442	41,680	Bridgetown.....	18,825	19,446
Goose Airport.....	31,848	28,795	Bridgewater.....	59,756	63,978
Goose Airport Sub-office A.....	13,441	12,211	Chester.....	12,270	12,954
Grand Falls.....	36,699	41,156	Cornwallis.....	15,287	17,294
Harmon Field.....	28,165	16,070	Digby.....	34,896	35,542
Lewistown.....	13,197	14,560	Glace Bay.....	69,033	71,459
St. John's.....	737,569	765,450	Halifax.....	2,438,021	2,529,431
Stephenville.....	15,082	16,975	Halifax Fleet Mail Office.....	2	22,331
Wabana.....	15,834	17,850	Hantsport.....	11,445	12,127
Windsor.....	12,634	13,444	Inverness.....	11,725	11,258
Prince Edward Island.....	465,988	479,086	Kentville.....	88,384	92,868
Charlottetown.....	244,398	252,969	Kingston.....	11,268	11,987
Kensington.....	1	10,145	Liverpool.....	41,717	48,842
Montague.....	12,826	13,610	Lunenburg.....	29,309	31,145
Souris East.....	10,164	10,420	Mahone Bay.....	12,437	12,369
Summerside.....	67,701	69,246	Middleton.....	28,413	29,406
			New Glasgow.....	111,518	116,276
			New Waterford.....	26,896	29,893

¹ Less than \$10,000.

² Included with Halifax.

**16.—Gross Postal Revenue of Offices Collecting Upwards of \$10,000, Years Ended
Mar. 31, 1957 and 1958—continued**

Province and Post Office	1957	1958	Province and Post Office	1957	1958
	\$	\$		\$	\$
Nova Scotia—concluded			Quebec—continued		
North Sydney.....	44,354	44,778	Chap Chat.....	10,279	10,613
Oxford.....	10,384	10,376	Cap de la Madeleine.....	118,198	117,570
Parrsboro.....	13,353	13,754	Causapscal.....	17,110	19,528
Pictou.....	31,191	31,654	Chambly.....	15,119	18,260
RCAF Station, Greenwood.	11,809	12,705	Chandler.....	26,715	24,127
Shearwater.....	10,442	11,098	Charny.....	11,046	1
Shelburne.....	22,503	24,259	Chibougamau.....	22,203	23,671
Shubenacadie.....	12,629	12,366	Chicoutimi.....	214,597	233,322
Springhill.....	27,998	26,887	Coaticook.....	30,409	32,434
Stellarton.....	27,969	30,015	Cowansville.....	38,879	41,769
Sydney.....	277,704	288,175	Danville.....	15,082	15,246
Sydney Mines.....	23,057	23,565	Disraeli.....	1	10,586
Tatamagouche.....	10,710	10,925	Dolbeau.....	32,879	33,083
Trenton.....	11,202	11,835	Donnacona.....	17,559	17,332
Truro.....	176,513	185,876	Dorion-Vaudreuil.....	20,890	27,300
Westville.....	13,168	12,678	Dorval Station.....	13,489	14,733
Windsor.....	43,126	44,639	Drummondville.....	175,553	190,447
Wolfville.....	32,311	35,451	East Angus.....	14,592	15,670
Yarmouth.....	96,258	97,859	Farnham.....	33,685	36,220
			Forestville.....	14,933	17,490
			Gamelin.....	1	13,167
New Brunswick	3,907,335	4,008,344	Gardenvale.....	258,546	293,807
Bathurst.....	68,903	84,393	Gaspé.....	34,452	33,055
Black Harbour.....	10,478	1	Gatineau.....	26,464	27,207
Campbellton.....	73,872	74,107	Granby.....	196,165	197,829
Chatham.....	36,203	37,939	Grand Mère.....	74,703	77,374
Chipman.....	10,776	11,340	Hauterive.....	1	15,173
Dalhousie.....	30,075	30,814	Hudson.....	11,204	11,748
Dorchester.....	1	10,327	Hull.....	192,232	202,462
Edmundston.....	63,647	67,235	Huntingdon.....	24,001	24,933
Fredericton.....	384,920	462,020	Isle Maligine.....	1	12,568
Grand Falls.....	26,072	26,834	Joliette.....	108,571	111,979
Hartland.....	12,018	12,812	Jonquière-Kenogami.....	94,970	95,233
Harvey Station.....	10,083	1	Knowlton.....	14,179	15,419
Minto.....	12,156	11,474	Labrieville.....	21,434	1
Moncton.....	1,376,937	1,347,138	Labrieville South.....	1	14,347
Newcastle.....	54,011	52,072	Lachine.....	1	215,096
Perth.....	10,942	10,619	Lachute.....	37,599	58,293
Plaster Rock.....	11,471	11,943	Lachine Mills.....	13,707	1
Richibucto.....	1	10,609	Lac Mégantic.....	30,201	33,033
Rothsay.....	1	10,046	Lacolle.....	15,692	16,127
Saint John.....	846,035	867,348	La Malbaie.....	19,023	18,676
St. Andrews.....	20,362	22,180	La Prairie.....	19,210	21,767
St. George.....	11,692	10,849	La Sarre.....	33,533	34,512
St. Stephen.....	42,153	39,107	L'Assomption.....	16,398	17,557
Sackville.....	54,678	57,112	La Tuque.....	53,520	56,389
Shediac.....	14,791	15,032	Laval West.....	1	10,429
Sussex.....	38,011	39,051	Lennoxville.....	35,810	35,878
Tracadie.....	11,192	11,555	L'Epiphanie.....	1	10,029
Woodstock.....	53,821	52,574	Lévis.....	186,486	208,249
			L'Isletville.....	10,981	1
Quebec	36,593,237	38,691,841	Loretteville.....	21,908	23,147
Acton Vale.....	16,382	17,445	Louiseville.....	22,454	22,936
Amos.....	49,804	53,789	MacDonald College.....	10,162	10,823
Amqui.....	24,937	27,069	Magog.....	60,997	60,467
Arthabaska.....	11,522	12,318	Malartic.....	25,672	25,270
Arvida.....	61,282	63,084	Maniwaki.....	30,583	31,349
Asbestos.....	40,565	44,427	Marieville.....	16,929	18,194
Aylmer East.....	12,666	12,990	Matane.....	56,594	60,730
Bagotville.....	15,714	16,511	McMasterville.....	1	10,165
Baie Comeau.....	40,434	53,690	Metabetchouan.....	11,978	12,087
Baie St. Paul.....	13,182	13,536	Mont Joli.....	80,915	57,374
Basilique Ste. Anne.....	49,423	77,401	Mont Laurier.....	38,132	41,638
Beauceville East.....	20,949	21,481	Montmagny.....	55,022	54,596
Beauharnois.....	40,467	41,757	Montreal.....	22,840,751	23,907,300
Bedford.....	23,724	25,591	Murdochville.....	1	10,948
Berthierville.....	19,451	19,856	Neuville.....	24,419	25,754
Bourlamaque.....	14,913	14,627	New Carlisle.....	19,300	18,838
Brownburg.....	12,741	13,439	Nicolet.....	43,285	42,601
Buckingham.....	28,387	30,824	Noranda.....	66,005	66,805
Cabano.....	12,528	12,865	Normandin.....	10,131	10,395

¹ Less than \$10,000.

² Opened April 1957.

³ Included with Montreal.

16.—Gross Postal Revenue of Offices Collecting Upwards of \$10,000, Years Ended Mar. 31, 1957 and 1958—continued

Province and Post Office	1957	1958	Province and Post Office	1957	1958
\$	\$	\$	\$	\$	\$
Quebec—concluded			Ontario	65,807,534	70,099,641
Ormatown.....	1	10,127	Acton.....	28,763	35,388
Paspébiac.....	10,087	10,306	Agincourt.....	33,488	49,437
Plessisville.....	25,719	29,288	Ajax.....	51,623	61,376
Plessisville Station.....	14,128	14,177	Alexandria.....	18,290	20,409
Port Alfred.....	18,175	18,767	Alliston.....	22,406	25,942
Princeville.....	15,941	17,117	Almonte.....	18,173	18,953
Quebec.....	3,510,225	3,708,300	Amherstburg.....	36,263	38,024
Rawdon.....	12,947	14,955	Ancaster.....	23,103	27,745
RCAF Station, St. Hubert.....	27,963	29,083	Ansonville.....	12,553	14,180
RCAF Station, St. Jean.....	16,598	19,002	Arnprior.....	65,664	64,512
Richmond.....	24,668	26,685	Arthur.....	10,032	10,432
Rigaud.....	10,736	11,678	Atikokan.....	34,754	40,349
Rimouski.....	175,716	185,963	Aurora.....	44,367	48,086
Rivière du Loup.....	70,735	75,261	Aylmer West.....	42,372	51,218
Roberval.....	38,947	40,454	Bancroft.....	30,787	36,691
Rock Island.....	33,220	36,217	Barrie.....	188,921	207,235
Rosemere.....	1	11,712	Barrys Bay.....	1	10,246
Rouyn.....	89,304	99,649	Bartonville.....	13,767	15,515
Ste. Adèle en Bas.....	1	11,598	Batawa.....	20,306	21,772
Ste. Agathe des Monts.....	41,424	43,325	Beamsville.....	25,701	27,470
Ste. Anne de Beaupré.....	18,287	18,096	Beaverton.....	12,168	13,114
Ste. Anne de Bellevue.....	25,192	42,491	Belle River.....	10,288	10,440
Ste. Anne de la Pocatière.....	22,031	22,408	Belleville.....	306,655	305,772
Ste. Anne des Monts.....	11,732	13,146	Billings Bridge (Ottawa).....	30,361	36,698
St. Eustache.....	20,210	30,396	Blenheim.....	31,785	33,289
St. Eustache sur le Lac.....	11,940	2	Blind River.....	32,783	41,548
St. Félicien.....	24,635	26,527	Bolton.....	12,556	12,940
St. Gabriel de Brandon.....	13,068	14,318	Bowmanville.....	50,627	56,329
Ste. Geneviève de			Bracebridge.....	40,787	40,947
Pierrefonds.....	13,172	13,121	Bradford.....	21,195	22,377
St. Georges West.....	12,111	13,151	Brampton.....	193,446	228,118
St. Hilaire Village.....	1	10,115	Brantford.....	550,176	583,432
St. Hyacinthe.....	179,945	181,948	Brighton.....	19,388	19,731
St. Jean.....	181,052	193,184	Brockville.....	187,951	204,541
St. Jean Port Joli.....	12,580	12,733	Bronte.....	11,504	13,623
St. Jérôme.....	103,963	123,553	Burk's Falls.....	11,247	12,131
St. Joseph de Beauce.....	15,906	17,336	Burlington.....	160,363	183,142
St. Jovite.....	13,626	15,202	Byron.....	17,852	20,690
Ste. Marie Beauce.....	23,174	24,860	Caledonia.....	16,117	16,876
St. Pascal.....	14,055	14,208	Campbellford.....	27,847	28,324
St. Raymond.....	15,099	15,581	Camp Borden.....	30,506	31,107
St. Rémi.....	11,272	13,313	Capreol.....	11,951	14,426
St. Rose.....	20,243	24,025	Cardinal.....	17,753	19,215
Ste. Thérèse de Blainville.....	47,415	51,466	Carleton Place.....	34,196	34,162
St. Tit.....	13,806	14,415	Chalk River.....	18,502	20,716
St. Zacharie.....	1	10,079	Chapleau.....	27,572	28,768
Sayabec.....	10,032	1	Chatham.....	312,063	313,976
Schefferville.....	1	22,869	Chelmsford.....	13,231	14,196
Senne-terre.....	16,671	16,257	Chesley.....	14,466	14,583
Sept Îles.....	71,924	68,947	Chesterville.....	11,308	11,813
Shawinigan.....	149,168	151,428	Chippawa.....	12,900	13,879
Shawville.....	15,780	15,717	City View.....	16,610	4
Sherbrooke.....	548,540	562,053	Clarkson.....	25,047	33,436
Sorel.....	91,313	96,971	Clifford.....	1	12,420
Station St. Victor.....	17,102	16,407	Clinton.....	30,392	31,691
Sutton.....	11,549	11,100	Cobalt.....	17,050	16,551
Terrebonne.....	16,817	16,828	Cobourg.....	97,029	98,529
Thetford Mines.....	110,285	113,159	Cochrane.....	38,118	39,920
Thurso.....	1	11,274	Colborne.....	11,430	11,657
Timiskaming Station.....	16,614	16,113	Collingwood.....	54,506	65,499
Trois Pistoies.....	21,032	21,136	Cooksville.....	48,794	55,930
Trois Rivières.....	402,173	426,985	Copper Cliff.....	29,608	33,793
Val d'Or.....	90,673	89,660	Cornwall.....	250,318	271,969
Valleyfield.....	106,371	109,678	Corunna.....	13,189	15,199
Victoriaville.....	104,798	106,681	Deep River.....	21,242	23,880
Ville d'Alma.....	49,214	57,784	Delhi.....	34,624	37,375
Ville Jacques Cartier.....	257,877	236,117	Deseronto.....	1	11,763
Ville Marie.....	12,825	13,767	Don Mills.....	142,013	217,013
Ville St. Georges.....	35,114	39,366	Dorset Park.....	1	10,299
Warwick.....	13,299	14,121	Downsview.....	185,802	251,157
Waterloo.....	30,391	32,392	Dresden.....	18,200	18,942
Windsor.....	16,935	17,585	Dryden.....	45,671	48,946

¹ Less than \$10,000.

² Closed October 1957.

³ Opened June 1957.

⁴ Included in Ottawa.

**16.—Gross Postal Revenue of Offices Collecting Upwards of \$10,000, Years Ended
Mar. 31, 1957 and 1958—continued**

Province and Post Office	1957	1958	Province and Post Office	1957	1958
	■	\$		\$	\$
Ontario—continued			Ontario—continued		
Dundas.....	77,202	89,812	Marathon.....	17,177	18,770
Dunnville.....	54,062	57,648	Markdale.....	11,602	12,560
Durham.....	15,870	17,651	Markham.....	20,758	26,791
Eganville.....	14,902	15,565	Marmora.....	10,899	10,783
Elliot Lake.....	20,609	71,335	Matheson.....	12,468	12,812
Elmira.....	26,868	28,655	Mattawa.....	14,205	15,012
Elora.....	¹	10,087	Meaford.....	29,302	29,375
Englehart.....	13,849	14,550	Midland.....	65,712	72,865
Espanola.....	23,598	27,206	Milton West.....	46,265	48,897
Essex.....	31,744	33,570	Minden.....	13,541	15,080
Exeter.....	23,985	25,987	Mitchell.....	13,907	15,449
Penelon Falls.....	14,796	15,541	Morrisburg.....	21,614	21,259
Fergus.....	42,662	47,567	Mount Forest.....	22,804	24,675
Ferris.....	12,802	²	Napanee.....	45,813	49,021
Fonthill.....	13,417	14,432	New Hamburg.....	19,401	19,814
Forest.....	19,351	19,542	New Liskeard.....	83,554	88,980
Fort Erie.....	113,040	113,298	Newmarket.....	70,766	77,925
Fort Frances.....	67,208	64,802	Niagara Falls.....	504,996	522,287
Fort William.....	374,345	407,384	Niagara-on-the-Lake.....	21,553	22,482
Galt.....	247,974	271,759	Nipigon.....	15,292	15,792
Gananoque.....	48,240	49,034	North Bay.....	281,644	317,779
Georgetown.....	85,077	88,830	Norwich.....	15,639	17,010
Geraldton.....	23,944	24,722	Oakville.....	241,778	260,478 ⁴
Glencoe.....	11,342	12,058	Orangeville.....	39,430	41,879
Goderich.....	50,806	54,246	Orillia.....	152,597	160,415
Gore Bay.....	12,203	12,683	Oshawa.....	706,381	726,963
Gravenhurst.....	34,107	36,939	Ottawa.....	3,351,014	3,571,541
Grimsbv.....	42,884	45,293	Owen Sound.....	199,021	194,248
Guelph.....	388,665	453,045	Palmerston.....	11,240	12,033
Hagersville.....	21,708	23,216	Paris.....	62,965	70,633
Halleybury.....	24,607	24,853	Park Hill.....	10,804	11,319
Haliburton.....	16,708	17,232	Parry Sound.....	55,938	58,779
Hamilton.....	2,826,647	2,880,616	Pembroke.....	133,121	142,186
Hanover.....	36,699	37,889	Penetanguishene.....	22,865	23,839
Harrison.....	13,448	14,219	Perth.....	66,044	66,715
Harrow.....	20,946	22,524	Petawawa Camp.....	19,205	20,259
Havelock.....	¹	10,180	Peterborough.....	474,648	497,045
Hawkesbury.....	36,238	37,314	Petrolia.....	26,102	26,577
Hearst.....	24,909	27,796	Pickering.....	15,961	17,088
Hespeler.....	30,168	31,458	Picton.....	63,272	64,826
Highland Creek.....	17,678	20,604	Point Edward.....	15,246	13,427
Hornepayne.....	10,089	10,755	Port Arthur.....	328,554	360,913
Huntsville.....	56,539	59,782	Port Burwell.....	14,565	16,570
Hurdman's Bridge (Ottawa).....	¹	11,465	Port Colborne.....	96,197	103,398
Ingersoll.....	60,038	60,849	Port Credit.....	172,400	178,153
Iroquois.....	13,284	14,089	Port Dalhousie.....	19,913	20,486
Iroquois Falls.....	13,775	13,548	Port Doyer.....	22,201	22,007
Jamestown.....	16,770	21,370	Port Elgin.....	16,062	16,581
Kapuskasing.....	51,079	53,189	Port Hope.....	78,141	79,961
Kemptville.....	20,406	20,760	Port Perry.....	15,779	16,530
Kenora.....	106,325	112,263	Powassan.....	10,793	11,081
Kensal Park.....	¹	10,131	Prescott.....	49,755	55,735
Kincardine.....	25,258	27,611	Preston.....	101,197	105,725
King City.....	¹	10,405	Rainy River.....	10,264	11,885
Kingston.....	519,243	558,440	RCAF Station, Borden.....	14,109	16,744
Kingsville.....	33,150	34,608	RCAF Station, Centralia.....	12,717	11,320
Kirkland Lake.....	113,047	114,840	RCAF Station, Clinton.....	14,118	14,212
Kitchener.....	693,939	731,251	RCAF Station, Rockcliffe (Ottawa).....	40,625	³
Lakefield.....	16,698	16,816	RCAF Station, Trenton.....	39,254	37,305
Lambeth.....	11,155	11,869	RCAF Station, Uplands (Ottawa).....	¹	10,985
Leamington.....	108,781	120,600	Red Lake.....	14,213	16,205
Levnck.....	12,710	15,099	Renfrew.....	68,391	70,557
Lindsay.....	110,227	122,341	Rexdale.....	46,671	103,393
Listowel.....	30,170	32,007	Richmond Hill.....	46,321	59,575
Little Current.....	16,632	17,658	Ridgetown.....	23,474	25,143
London.....	2,108,976	2,169,150	Ridgeway.....	16,412	16,950
Lorne Park.....	11,314	12,787	Rodney.....	10,721	11,341
Lucknow.....	10,643	11,227	St. Catharines.....	616,528	638,552
Madoc.....	14,170	14,934	St. Mary's.....	37,238	37,411
Malton.....	37,515	39,514			
Manitowandage.....	¹	14,838			
Maple.....	19,010	19,609			

¹ Less than \$10,000.² Included in North Bay.³ Closed November 1957.

16.—Gross Postal Revenue of Offices Collecting Upwards of \$10,000, Years Ended Mar. 31, 1957 and 1958—continued

Province and Post Office	1957	1958	Province and Post Office	1957	1958
	£	\$		£	\$
Ontario—concluded			Manitoba—concluded		
St. Thomas.....	219,280	206,796	Churchill.....	11,305	10,936
Sarnia.....	368,512	399,867	Dauphin.....	82,570	83,914
Sault Ste. Marie.....	303,977	331,280	Deloraine.....	10,391	1
Scarborough.....	235,443	398,168	Flin Flon.....	67,591	71,542
Scarborough Village.....	11,147	12,300	Fort Churchill.....	29,380	32,777
Schreiber.....	12,201	13,219	Gimli.....	12,275	13,765
Schumacher.....	16,726	18,138	Gladstone.....	1	10,138
Seaford.....	22,148	23,852	Grand View.....	10,100	10,222
Shelburne.....	13,600	13,764	Killarney.....	14,146	14,361
Simcoe.....	113,648	120,660	Lynn Lake.....	10,404	12,921
Sioux Lookout.....	26,208	29,323	Melita.....	1	10,076
Smith's Falls.....	76,514	83,039	Minnedosa.....	20,542	21,115
Smithville.....	1	10,793	Morden.....	16,559	18,240
Smooth Rock Falls.....	12,690	12,789	Morris.....	1	10,222
Southampton.....	13,466	14,165	Neepawa.....	29,494	31,048
South Porcupine.....	24,142	26,943	Pine Falls.....	14,437	13,572
Spragge.....	14,204	24,790	Portage la Prairie.....	92,897	99,747
Stayner.....	14,830	15,389	Rivers.....	10,872	11,650
Stirling.....	11,272	11,750	Rivers Camp.....	10,238	1
Stoney Creek.....	38,237	45,096	Roblin.....	15,159	15,681
Stouffville.....	22,247	24,374	Russell.....	12,865	13,442
Stratford.....	241,728	256,108	Selkirk.....	35,625	37,650
Strathroy.....	43,960	50,142	Shilo.....	16,110	18,483
Streetsville.....	29,607	37,573	Souris.....	15,485	15,821
Sturgeon Falls.....	26,565	29,061	Steinbach.....	24,616	26,672
Sudbury.....	528,715	574,623	Swan River.....	27,247	28,621
Sundridge.....	10,134	10,432	The Pas.....	39,761	43,330
Sutton West.....	12,565	13,810	Transcona.....	23,367	25,419
Tecumseh.....	17,169	19,519	Virten.....	35,146	33,196
Terrace Bay.....	11,187	11,669	Wawanesa.....	13,246	11,141
Thamesville.....	12,781	13,236	Winkler.....	13,354	14,157
Thessalon.....	13,715	14,763	Winnipeg.....	7,826,915	7,992,079
Thornhill.....	18,748	21,198			
Thorold.....	89,459	93,368			
Tilbury.....	22,470	22,757	Saskatchewan	7,106,478	7,348,248
Tillsonburg.....	71,566	78,595	Assiniboia.....	26,704	28,291
Timmins.....	169,838	159,956	Biggar.....	19,759	21,136
Toronto.....	34,320,436	36,206,975	Broadview.....	10,728	11,206
Trenton.....	99,351	110,439	Canora.....	18,335	18,223
Tweed.....	17,981	19,078	Carlyle.....	10,896	11,021
Unionville.....	1	10,010	Carnduff.....	10,059	10,263
Uxbridge.....	19,146	20,596	Davidson.....	10,802	11,413
Vankleek Hill.....	1	10,504	Eldorado.....	1	11,623
Virginiatown.....	10,975	13,440	Estevan.....	66,190	80,978
Walkerton.....	36,976	36,277	Eston.....	13,935	14,673
Wallaceburg.....	75,219	76,705	Foam Lake.....	11,491	11,806
Waterdown.....	17,085	18,202	Fort Qu'Appelle.....	1	11,709
Waterford.....	15,032	15,339	Fort San.....	12,830	14,475
Waterloo.....	258,941	280,915	Gravelbourg.....	15,142	15,087
Watford.....	13,715	14,780	Grenfell.....	11,136	12,032
Welland.....	260,586	247,576	Gull Lake.....	10,393	10,031
Westboro (Ottawa).....	119,247	120,026	Hudson Bay.....	11,985	12,253
West Hill.....	21,606	23,329	Humboldt.....	32,306	32,057
Wheatley.....	11,242	11,791	Indian Head.....	18,122	18,268
Whitby.....	54,064	58,409	Kamsack.....	20,095	20,152
Whitedog Falls.....	1	10,387	Kerrobert.....	13,196	13,492
Warton.....	17,358	17,564	Kindersley.....	28,008	31,430
Willowdale.....	282,594	314,204	Lloydminster.....	55,718	58,010
Winchester.....	15,539	16,339	Maple Creek.....	21,094	21,550
Windsor.....	1,585,341	1,559,237	Meadow Lake.....	21,292	21,132
Wingham.....	30,900	31,864	Melfort.....	39,623	40,927
Winona.....	1	10,401	Melville.....	35,622	37,438
Woodbridge.....	18,381	19,647	Moose Jaw.....	283,347	286,222
Woodstock.....	223,229	240,418	Moosomin.....	18,118	19,153
			Nipawin.....	25,098	26,155
			North Battleford.....	106,536	113,440
Manitoba.....	9,689,165	9,917,129	Outlook.....	10,833	11,277
Altona.....	16,855	18,763	Oxbow.....	11,667	12,860
Beauséjour.....	14,649	16,994	Prince Albert.....	204,292	198,098
Boisvein.....	13,376	13,058	Regina.....	2,721,492	2,847,560
Brandon.....	273,427	285,061	Rosetown.....	27,562	29,038
Carman.....	17,468	18,756	Rosthern.....	13,107	15,505

1 Less than \$10,000.

**16.—Gross Postal Revenue of Offices Collecting Upwards of \$10,000, Years Ended
Mar. 31, 1957 and 1958—continued**

Province and Post Office	1957	1958	Province and Post Office	1957	1958
	\$	\$		\$	\$
Saskatchewan—concluded			Alberta—concluded		
Saskatoon.....	1,044,884	1,089,247	Rocky Mountain House.....	18,163	18,907
Shaunavon.....	21,656	22,004	St. Paul.....	21,112	24,223
Shellbrook.....	10,564	11,221	Spirit River.....	10,793	11,515
Swift Current.....	116,103	119,999	Stettler.....	39,269	39,762
Tisdale.....	27,282	28,680	Stony Plain.....	11,873	13,747
Unity.....	19,838	19,676	Taber.....	20,754	31,222
Uranium City.....	27,792	31,111	Three Hills.....	38,789	40,391
Wadena.....	14,261	14,992	Vegreville.....	25,913	28,699
Watrous.....	13,140	13,684	Vermilion.....	26,364	28,390
Weyburn.....	65,165	74,587	Viking.....	11,241	11,595
Wilkie.....	16,386	15,969	Vulcan.....	16,567	17,279
Wynyard.....	14,406	18,856	Wainwright.....	27,378	27,549
Yorkton.....	105,854	109,497	Westlock.....	23,662	26,250
			Wetaskiwin.....	46,848	49,809
Alberta.....	9,866,742	10,564,372	British Columbia.....	15,096,618	16,119,594
Athabasca.....	15,814	16,948	Abbotsford.....	55,508	60,940
Banff.....	73,132	72,655	Agassiz.....	12,551	1
Banff Springs Hotel.....	11,507	10,146	Alberni.....	30,508	31,745
Barrhead.....	17,725	19,390	Alder Grove.....	15,040	15,931
Beaverlodge.....	11,157	12,077	Alert Bay.....	11,794	12,843
Blairmore.....	13,685	12,972	Armstrong.....	17,442	17,024
Bonnyville.....	16,082	16,212	Ashcroft.....	13,918	13,753
Bowden.....	16,089	16,698	Burns Lake.....	17,144	17,476
Bowness.....	18,574	21,048	Campbell River.....	57,663	55,842
Brooks.....	28,740	29,633	Castlegar.....	15,218	17,791
Calgary.....	2,956,674	3,193,487	Chemainus.....	20,140	22,109
Camrose.....	61,693	64,809	Chilliwack.....	116,025	121,754
Cardston.....	20,580	21,224	Clearbrook.....	1	11,861
Castor.....	1	10,841	Cloverdale.....	49,745	55,436
Château Lake Louise.....	11,309	11,039	Courtenay.....	70,401	74,642
Clareholm.....	22,600	22,721	Cranbrook.....	59,931	62,777
Coaldale.....	11,992	16,071	Creston.....	31,133	32,740
Coleman.....	11,699	12,199	Dawson Creek.....	90,492	99,999
Currie Barracks.....	12,562	12,647	Duncan.....	84,936	94,479
Devon.....	10,443	10,107	Enderby.....	12,155	12,022
Didsbury.....	15,530	16,112	Essondale.....	11,777	11,677
Drayton Valley.....	27,368	27,174	Fernie.....	24,788	24,486
Drumheller.....	47,149	43,182	Fort St. John.....	31,008	44,631
Edmonton.....	3,558,967	3,882,096	Ganges.....	13,177	13,723
Edson.....	30,108	33,279	Gibsons.....	15,812	15,938
Fairview.....	14,828	15,737	Golden.....	14,054	14,295
Falher.....	10,348	10,260	Grand Forks.....	22,467	22,888
Fort Macleod.....	19,246	21,100	Haney.....	45,955	50,916
Fort Saskatchewan.....	18,846	19,257	Hope.....	23,774	26,228
Grand Centre (MPO 503).....	17,360	2	Invermere.....	1	10,090
Grande Prairie.....	78,295	82,776	Kamloops.....	191,231	200,925
Griesbach.....	1	10,582	Kelowna.....	164,146	183,398
Hanna.....	23,763	25,505	Kimberley.....	37,665	38,978
High Prairie.....	17,241	18,071	Kitimat.....	114,295	128,220
High River.....	22,697	24,324	Ladner.....	35,249	37,731
Hinton.....	21,080	23,643	Ladysmith.....	21,108	22,076
Innisfail.....	22,871	25,944	Lake Cowichan.....	13,240	13,633
Jasper.....	27,971	30,252	Langford Station.....	1	11,084
Lac la Biche.....	10,246	10,985	Langley.....	48,457	49,835
Lacombe.....	33,449	35,942	Lillooet.....	11,816	12,861
Lancaster Park.....	16,826	16,539	Merritt.....	16,935	18,251
Leduc.....	17,254	18,420	Mission City.....	57,006	56,086
Lethbridge.....	355,852	366,916	Nakusp.....	11,110	11,432
Lincoln Park.....	12,883	12,376	Nanaimo.....	189,167	187,036
Medicine Hat.....	155,638	163,670	Nelson.....	127,695	131,242
Nanton.....	11,801	12,108	Newton Station.....	11,964	14,581
North Edmonton.....	20,569	24,125	New Westminster.....	553,503	636,051
Olds.....	29,634	30,157	Ocean Falls.....	27,043	26,327
Peace River.....	38,624	39,831	Oliver.....	28,503	30,084
Pincher Creek.....	21,280	22,829	Osoyoos.....	14,067	16,978
Ponoka.....	34,557	35,593	Parksville.....	15,642	16,004
Provost.....	11,452	11,636	Penticton.....	136,754	156,552
Raymond.....	15,087	14,855	Port Alberni.....	95,792	103,770
RCAF Station, Cold Lake.....	1	10,093	Port Alice.....	12,968	10,754
Red Deer.....	158,249	170,701	Port Coquitlam.....	22,442	25,782
Rimby.....	10,953	12,027			

¹ Less than \$10,000.

² Closed October 1957.

16.—Gross Postal Revenue of Offices Collecting Upwards of \$10,000, Years Ended Mar. 31, 1957 and 1958—concluded

Province and Post Office	1957	1958	Province and Post Office	1957	1958
	\$	\$		\$	\$
British Columbia—concluded			Yukon Territory.....	120,649	122,262
Port Moody.....	14,164	17,323	Dawson.....	12,387	1
Powell River.....	38,859	35,259	RCAF Station, Whitehorse.	17,166	14,491
Prince George.....	162,094	178,677	Whitehorse.....	71,496	77,923
Prince Rupert.....	109,235	120,639			
Princeton.....	20,011	20,672			
Qualicum Beach.....	15,021	15,654			
Quesnel.....	57,082	55,260			
Revelstoke.....	31,293	34,607	Northwest Territories.....	62,720	73,779
Rossland.....	21,500	20,946	Fort Smith.....	1	13,070
Royal Oak.....	15,443	19,792	Yellowknife.....	31,596	35,175
Salmo.....	1	10,007			
Salmon Arm.....	35,115	36,563			
Sardis.....	16,158	16,508			
Sechelt.....	11,072	12,330			
Sidney.....	28,112	31,674	Summary		
Smithers.....	26,667	26,737	Newfoundland.....	1,578,986	1,645,263
100 Mile House.....	10,213	11,833	Prince Edward Island.....	465,088	479,086
Squamish.....	15,232	15,070	Nova Scotia.....	4,833,169	5,095,323
Steveston.....	16,696	15,367	New Brunswick.....	3,907,335	4,008,344
Terrace.....	35,812	39,071	Quebec.....	36,593,237	38,691,841
Trail.....	137,619	147,761	Ontario.....	65,807,534	70,099,641
Vancouver.....	8,406,236	8,945,881	Manitoba.....	9,689,165	9,917,129
Vancouver Airport.....	33,819	46,124	Saskatchewan.....	7,106,478	7,348,248
Vanderhoof.....	15,766	16,673	Alberta.....	9,866,742	10,564,372
Vedder Crossing.....	11,300	12,635	British Columbia.....	15,096,618	16,119,594
Vernon.....	131,843	138,495	Yukon and N.W.T.....	183,369	196,041
Victoria.....	1,604,501	1,708,165			
Victoria Fleet Mail Office.....	29,068	29,796	Canada.....	155,177,721	164,164,882
West Summerland.....	18,532	22,067			
Westview.....	29,087	30,726	P.C. of all Postal Revenue...	92.4	92.5
White Rock.....	57,541	57,360			
Williams Lake.....	43,553	46,544			

¹ Less than \$10,000.

Auxiliary Postal Services.—Auxiliary postal services include the issuing of money orders and the operation of the Post Office Savings Bank.

Table 17 shows the amount of money order business conducted by the postal service in recent years. A table showing the financial business of the Post Office Savings Bank will be found in Chapter XXIII on Currency and Banking.

17.—Operations of the Money Order System, Years Ended Mar. 31, 1949-58

Year	Money Order Offices in Canada	Money Orders Issued in Canada	Value of Orders Issued in Canada	Value Payable in—		Value of Orders Issued in Other Countries, Payable in Canada
				Canada	Other Countries	
	No.	No.	\$	\$	\$	\$
1949.....	7,614	28,851,065	415,703,754	409,167,635	6,536,119	7,410,014
1950.....	11,252	38,567,500	479,520,987	473,364,799	6,156,187	6,697,818
1951.....	11,387	40,415,207	511,915,621	505,935,524	5,980,096	3,920,218
1952.....	11,320	41,782,109	580,823,622	571,396,122	9,427,500	3,019,522
1953.....	11,288	43,067,940	623,266,884	606,289,305	16,977,579	4,982,551
1954.....	11,264	45,797,958	678,080,657	656,515,831	19,564,826	4,763,566
1955.....	11,200	46,902,959	690,824,737	668,930,066	21,894,721	5,008,716
1956.....	11,099	49,081,082	725,950,733	704,230,646	21,700,086	4,643,217
1957.....	11,022	51,182,296	799,615,004	772,708,244	26,906,761	5,033,806
1958.....	10,934	52,898,954	845,647,439	818,333,292	27,314,147	5,394,568

Section 4.—The Press

About 111 daily newspapers, counting morning and evening editions separately, are published in Canada. They have an aggregate reported circulation of over 4,000,000—about 82 p.c. in English, 17 p.c. in French and the remainder in other languages. Thirteen

of the daily newspapers enjoying circulations in excess of 100,000 account for more than half of the circulation. French dailies, as would be expected, have their widest circulation in Quebec where 10 of the 13 in existence in 1957 were published. Some of the largest of these papers have been established in that province for over 60 years. Foreign-language publications, shown in Table 22, are gaining in circulation as a result of recent heavy immigration.

Weekly newspapers serve more people in rural communities than do the dailies. They cater to local interests and exercise an important influence in the areas they serve.

The Canadian Press, a co-operative organization owned and operated by Canada's daily newspapers, provides its 97 members with world and Canadian news and news photographs, mostly by means of teletype and wirephoto transmission. It also serves weekly newspapers and radio and television stations. It is, in effect, a partnership through which each member newspaper provides to its fellow members the news of its particular area and through which the general news of the world is brought to Canada. Cost of editing and transmission is divided among members according to the population of the cities in which they publish. CP gets world news from Reuters, the British agency, and from the Associated Press, the United States co-operative, and these agencies have reciprocal arrangements with CP for their coverage of Canada.

The United Press International (the British United Press and the United Press combined in May 1958) also provides a service of Canadian and world news, news photographs and related features for Canadian newspapers, radio and television stations. There are, as well, special news services operated by affiliated newspapers and individual newspapers. Several foreign news agencies have representatives in Canada to supply and interpret news of Canadian origin, as have a number of the leading United Kingdom and United States newspapers. Most of the latter are located at Ottawa.

Press Statistics.—The following tables are based on data estimated from *Canadian Advertising*. One serious difficulty has been encountered in connection with the compilation of circulation figures. Reliable circulation figures are relatively easy to obtain for daily newspapers because, in their own best interest, such papers qualify for and subscribe to the Audit Bureau of Circulation requirements: for these, A.B.C. 'net paid' figures have been used. However, it is difficult to obtain reliable circulation figures for many weekly newspapers and for magazines, and those shown in the following tables should be used with reservations.

18.—Estimated Numbers and Circulations¹ of reporting Daily and Weekly² English-Language Newspapers, by Province, 1955-57

NOTE.—Figures from 1945 will be found in the corresponding table of previous Year Books beginning with the 1947 edition.

Province or Territory	1955				1956				1957			
	Daily		Weekly		Daily		Weekly		Daily		Weekly	
	No.	Circulation	No.	Circulation	No.	Circulation	No.	Circulation	No.	Circulation	No.	Circulation
Nfld.	3	28,923	4	20,815	3	32,276	4	30,725	3	33,769	5	32,780
P.E.I.	2	19,042	1	5,735	2	19,446	1	5,626	3	24,314	1	5,626
N.S.	5	150,339	26	79,056	5	149,557	26	81,906	5	150,670	26	83,103
N.B.	3	77,960	17	51,962	3	80,657	17	53,612	3	82,048	15	50,899
Que.	5	307,186	26 ¹	1,454,979 ¹	5	314,080	25 ¹	1,556,350 ¹	5	323,241	24	1,561,429 ¹
Ont.	40	1,681,106	254	1,597,398	41	1,688,314	252	1,637,072	42	1,735,337	245	1,914,073 ⁴
Man.	6	205,065	66	85,150	6	207,848	67	82,684	6	207,207	67	84,348
Sask.	4	102,365	150	146,900	4	101,602	164	146,205	4	101,943	155	151,548
Alta.	5	204,927	98	146,869	5	215,017	108	174,775	5	224,511	109	178,141
B.C.	12	447,763	81	166,985	12	439,295	82	183,917	15	437,851	82	196,315
Yukon and N.W.T.	—	—	2	3,875	—	—	2	4,215	—	—	2	4,111
Canada.	85	3,224,676	725¹	3,768,724	86	3,248,092	748¹	3,957,087	91	3,321,411	731	4,262,373

¹ Circulation not reported for all newspapers.

² Includes semi-weeklies, tri-weeklies and week-end newspapers.

³ Includes one week-end supplement which is circulated with daily newspapers in other provinces.

⁴ Includes one week-end supplement which is circulated with a daily.

19.—Estimated Numbers and Circulations¹ of reporting Daily and Weekly² French-Language Newspapers, by Province, 1955-57

NOTE.—Figures from 1945 will be found in the corresponding table of previous Year Books beginning with the 1947 edition.

Province	1955				1956				1957			
	Daily		Weekly ³		Daily		Weekly ³		Daily		Weekly ³	
	No.	Circulation	No.	Circulation	No.	Circulation	No.	Circulation	No.	Circulation	No.	Circulation
N.S.....	—	—	1	1,398	—	—	1	1,431	—	—	1	1,551
N.B.....	1	7,268	2	7,476	1	7,374	2	7,463	2	31,189	2	8,351
Que.....	10	616,999	140	2,045,012 ⁴	10	615,648	142	2,122,174 ⁴	10	620,337	147	2,299,061 ⁴
Ont.....	1	26,976	5	19,035	1	27,950	5	13,989	1	29,567	6	16,515
Man.....	—	—	1	9,950	—	—	1	9,141	—	—	1	8,315
Sask.....	—	—	1	1,702	—	—	1	3,281	—	—	1	2,008
Alta.....	—	—	1	4,218	—	—	1	3,710	—	—	1	3,451
Totals.....	12	651,243	151	2,088,791	12	650,972	153	2,161,189	13	681,093	159	2,339,252

¹ Circulation not reported for all newspapers.

² Includes semi-weeklies and week-end newspapers.

³ Includes bilinguals.

⁴ Includes one week-end supplement which is circulated with other newspapers.

20.—Estimated Numbers and Circulations of reporting Daily and Weekly English-Language Newspapers Published in Urban Centres of 30,000 Population or Over, 1956 and 1957

NOTE.—Figures from 1945 will be found in the corresponding table of previous Year Books beginning with the 1947 edition.

Urban Centre	Census 1956	1956				1957			
	Households	Daily		Weekly		Daily		Weekly	
	No.	No.	Circulation	No.	Circulation	No.	Circulation	No.	Circulation
Brantford, Ont.....	14,642	1	20,948	—	—	1	21,330	—	—
Calgary, Alta.....	52,785	2	95,709	1	13,000	2	100,871	1	11,600
Edmonton, Alta.....	57,748	1	97,023	2	11,965	1	100,874	1	4,461
Fort William, Ont.....	10,118	1	14,133	—	—	1	14,713	—	—
Guelph, Ont.....	9,284	1	12,286	—	—	1	12,432	—	—
Halifax, N.S.....	21,194	1	107,199	—	—	1	107,607	—	—
Hamilton, Ont.....	63,815	1	92,715	—	—	1	97,807	—	—
Kingston, Ont.....	12,499	1	20,626	1	42,816 ¹	1	20,980	1	44,520 ¹
Kitchener, Ont.....	16,074	1	32,642	—	—	1	33,461	—	—
London, Ont.....	28,962	1	98,724	—	—	1	101,674	—	—
Moncton, N.B.....	8,647	1	22,759	—	—	1	23,558	—	—
Montreal, Que.....	285,501	3	299,116	4 ²	1,494,469 ²	3	308,870	4	1,506,877 ²
New Westminster, B.C.....	8,874	1	12,880	—	—	1	13,261	—	—
Oshawa, Ont.....	13,530	1	13,000	—	—	1	14,426	—	—
Ottawa, Ont.....	56,059	2	121,899	1	15,125	2	124,429	1	6,500
Peterborough, Ont.....	11,632	1	18,644	1	5,492	1	19,589	1	5,492
Port Arthur, Ont.....	9,979	1	12,430	—	—	1	13,320	—	—
Quebec, Que.....	38,556	1	6,267	—	—	1	5,650	—	—
Regina, Sask.....	23,883	1	47,384	1	2,400	1	48,352	1	2,400
St. Catharines, Ont.....	10,971	1	24,537	—	—	1	25,532	—	—
St. John's, Nfld.....	11,219	2	26,974	2	25,532 ³	2	27,881	2	25,532 ³
Saint John, N.B.....	13,836	1	45,838	2	10,600	1	46,064	1	7,800
Sarnia, Ont.....	11,917	1	14,374	1	15,000	1	15,047	1	15,000
Saskatoon, Sask.....	20,315	1	38,531	—	—	1	38,202	—	—
Sault Ste. Marie, Ont.....	9,169	1	14,023	—	—	1	14,714	—	—
Sherbrooke, Que.....	13,646	1	8,697	1	3,400	1	8,721	1	3,400
Sudbury, Ont.....	11,526	1	26,192	—	—	1	28,623	—	—
Sydney, N.S.....	6,914	1	26,867	—	—	1	27,237	—	—
Toronto, Ont.....	157,137	4	901,605	5	1,009,291 ⁴	4	917,316	6	1,302,919 ⁴
Trois Rivières, Que.....	10,912	—	—	1	4,162	—	—	1	4,165
Vancouver, B.C.....	108,953	3	343,756	7	33,358	2	319,782	9	51,726
Verdun, Que.....	21,009	—	—	1	8,118	—	—	—	—
Victoria, B.C.....	17,309	2	51,051	1	2,500	2	54,776	1	2,500
Windsor, Ont.....	33,280	1	77,170	—	—	1	77,492	—	—
Winnipeg, Man.....	67,738	2	190,822	1	..	2	190,671	1	..

¹ Week-end newspaper.

² Includes two week-end newspapers, one of which, a week-end supplement, is circulated with daily newspapers in other cities.

³ Includes one week-end newspaper.

⁴ Includes two week-end newspapers.

⁵ Includes three week-end newspapers.

21.—Estimated Numbers and Circulations of reporting Daily and Weekly French-Language Newspapers Published in Urban Centres of 30,000 Population or Over, 1956 and 1957

NOTE.—Figures from 1945 will be found in the corresponding table of previous Year Books beginning with the 1947 edition.

Urban Centre	Census 1956	1956				1957			
	House- holds	Daily		Weekly		Daily		Weekly	
		No.	Circulation	No.	Circulation	No.	Circulation	No.	Circulation
Edmonton, Alta.....	57,748	—	—	1	3,710	—	—	1	3,451
Hull, Que.....	11,167	—	—	3	48,172 ¹	—	—	4	68,172 ¹
Lachine, Que.....	8,557	—	—	1	14,000 ²	—	—	1	14,000 ²
Moncton, N.B.....	8,647	1	7,374	—	—	2	31,189	—	—
Montreal, Que.....	285,501	4	350,318	26	1,617,646 ³	4	356,337	26	1,725,644 ⁴
Ottawa, Ont.....	56,059	1	27,950	—	—	1	29,567	—	—
Quebec, Que.....	38,556	2	197,428	—	—	2	193,676	2 ⁵	—
St. Laurent, Que.....	9,304	—	—	1	5,000 ²	—	—	1	6,400 ²
Sherbrooke, Que.....	13,646	1	26,732	1	35,866	1	28,662	1	38,170
Sudbury, Ont.....	11,526	—	—	1	1,989	—	—	1	1,989
Trois Rivières, Que.....	10,912	1	31,359	3	7,812 ⁶	1	32,440	3	7,812 ⁶
Verdun, Que.....	21,009	—	—	—	—	—	—	1	7,810 ²

¹ Includes one week-end supplement which is circulated with daily newspapers in other cities.

² Bilingual.

³ Includes 11 bilinguals and 11 week-end newspapers.

⁴ Includes nine bilinguals and 12 week-end newspapers.

⁵ Week-end newspapers.

⁶ Circulation for two weeklies only.

22.—Estimated Numbers and Circulations of Foreign-Language Publications, 1956 and 1957

NOTE.—Figures from 1945 will be found in the corresponding table of previous Year Books beginning with the 1947 edition.

Language	1956		1957	
	No.	Circulation	No.	Circulation
Bulgarian.....	2	4,500	2	4,500
Byelorussian.....	1	2,213	1	2,213
Chinese.....	5	14,643 ¹	5	12,866 ¹
Croat.....	—	—	2	10,700
Czech.....	1	4,873	1	3,115
Czech and Slovak.....	2	6,516	1	4,975
Danish.....	1	1,715	—	—
Dutch.....	8	33,316	8	30,943
Estonian.....	2	9,787	2	10,208
Finnish.....	4	14,631	4	14,456
German.....	9	88,687	8	81,443
Hungarian.....	2	7,674	3	18,035
Icelandic.....	2	3,935	2	3,935
Italian.....	5	52,087	6	81,663
Japanese.....	2	7,010	2	7,010
Latvian.....	2	7,425	1	5,181
Lithuanian.....	3	10,470 ²	3	9,923 ²
Maltese.....	1	1,274	1	1,480
Norwegian.....	1	4,880	1	4,326
Polish.....	4	46,218	4	41,530
Russian.....	1	4,018	1	4,018
Serbian.....	5	32,440	3	20,109
Slovenian.....	1	3,114	1	3,230
Swedish.....	2	4,171	2	3,827
Ukrainian.....	18	148,745	17	188,419
Yiddish.....	4	55,044	4	54,890

¹ Circulation for four publications only.

² Circulation for two publications only.

Table 23 shows the number of publications, other than newspapers, published in Canada. Monthly and weekly magazines and periodicals enjoy the largest circulation; those dealing with home, social and welfare, agricultural and rural topics, trade, industry and related subjects and religious publications are the most popular.

23.—Estimated Numbers and Circulations of reporting Magazines and Related Publications, by Broad Classifications, 1955-57

NOTE.—Figures from 1945 will be found in the corresponding table of previous Year Books beginning with the 1947 edition.

Classification	1955			1956			1957		
	Listed	Reporting		Listed	Reporting		Listed	Reporting	
	No.	No.	Circulation	No.	No.	Circulation	No.	No.	Circulation
• Agricultural and rural.....	55	53	2,565,302	55	52	2,665,856	55	53	2,672,052
Arts, crafts and professions.....	26	23	345,290	28	25	170,763	31	29	211,416
Construction.....	21	20	131,309	21	20	140,221	22	21	135,163
Educational.....	69	67	521,028	71	71	641,126	73	72	645,780
Finance and insurance.....	14	10	275,865	14	11	183,472	14	12	218,698
Government and government services.....	31	30	347,865	34	32	471,561	37	35	516,990
Home, social and welfare.....	44	40	4,425,193	43	41	4,308,466	40	37	4,439,383
Labour.....	15	13	264,846	13	12	261,108	14	13	277,490
Pharmaceutical and medical.....	34	30	143,222	37	32	374,065	37	33	178,921
Religious.....	32	32	891,937	33	33	920,633	34	34	902,303
Services and directories.....	69	59	487,007	73	61	609,864	80	64	691,698
Sports and entertainment.....	33	30	408,889	30	28	363,894	32	30	709,108
Trade, industry and related publications.....	202	190	1,031,713	208	199	1,131,872	209	202	1,177,814
Transportation and travel.....	33	32	391,134	35	33	422,130	38	37	460,731
Miscellaneous.....	13	13	136,795	11	11	127,702	11	11	119,463
Totals.....	691	642	12,362,395	706	661	12,792,733	727	683	13,357,010

A HISTORY OF CANADIAN JOURNALISM, (CIRCA) 1900 TO 1958

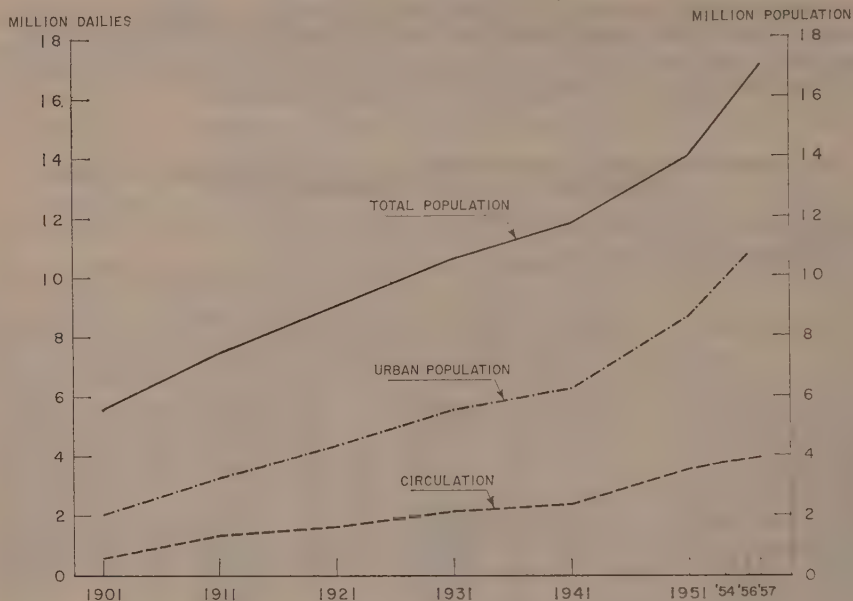
An article in the *Canada Year Book* 1957-58 considered the history of Canadian journalism from its beginnings in 1752 to (circa) 1900. The following account examines press growth from the start of the twentieth century to the time of writing.

FOURTH PERIOD: THE MUTATION, (CIRCA) 1900 TO 1958

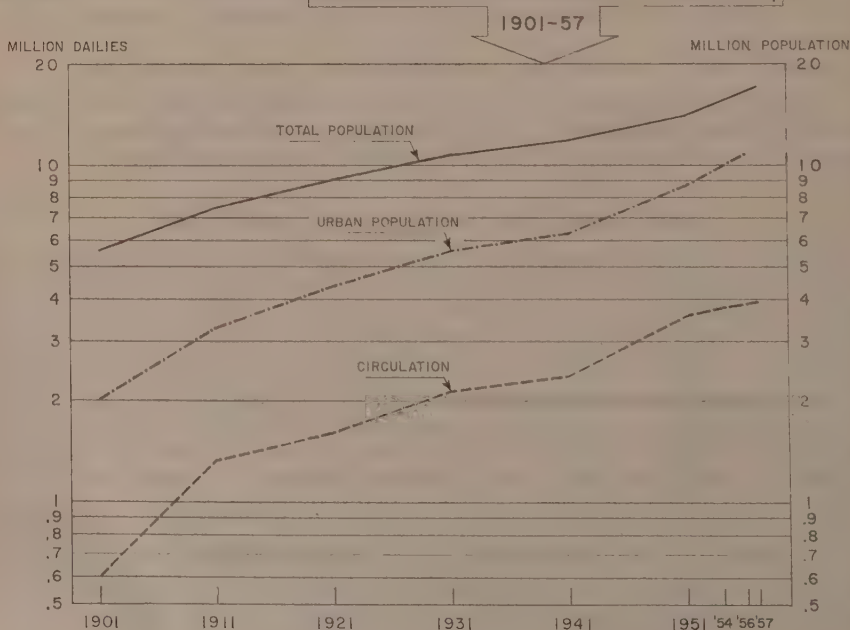
After the journalistic transplant had at last completed its spread throughout the geographic limits of Canada by 1900, the plant itself began to change markedly in character. So complete was the transformation that the word "mutation" is perhaps not too extreme a label to attach to Canada's fourth press period. The change thus indicated was particularly true of the daily newspaper, which became by far the most important of the nation's journals. Certainly in the period since 1900 the characteristic news-organ has taken on attributes that would make it virtually unrecognizable to the mid-Victorian reader. Extensive gains in circulation, a great increase in timeliness, a remarkable enlargement of mechanical plant and business operation, and innovations of newspaper production and news presentation were the essential features of the transformation.

These striking changes were caused by the interaction of two factors—a remarkable economic and population growth and revolutionary developments in the technology of journalism. During the modern half-century, as the national wealth grew and as social, political and other conditions became more and more favourable, the Canadian populace became greatly enlarged, producing a sharp and sustained increase in the number of newspaper readers. Had this been the only development to take place, the result would prob-

CIRCULATION OF CANADIAN DAILY NEWSPAPERS COMPARED WITH TOTAL AND URBAN POPULATION, 1901-57



LOGARITHMIC PROJECTION OF THE TREND
OF GROWTH IN CIRCULATION OF DAILY
NEWSPAPERS IN RELATION WITH POPULATION,



ably have been nothing more than the creation of a great many new journals to serve additional Canadian subscribers. Instead, however, increased readership was taken care of by the use of mechanical improvements in newspaper production rather than by establishment of more newspapers. Indeed, there was an actual decrease in the numbers of Canadian dailies during this period of expanding circulations. Thus the modern paper is not a mere counterpart of its nineteenth century predecessor but has inevitably become a much larger entity. At the same time, because today's daily journal, through technical improvements, furnishes many news services which the 1850 reader did not enjoy, it has also become a different entity.

It is not necessary to consider here the changes in the nation's economy during this period; it is sufficient to note that such changes had a direct and important bearing on Canada's population rise. That population increase, itself a primary factor in determination of newspaper circulations, was from 5,592,299 in 1901 (including Newfoundland) to an estimated 17,048,000 on June 1, 1958. While the number of the nation's inhabitants was tripling, readership of French and English language dailies was making even greater gains, rising from an estimated 600,000 subscribers in 1901* to an estimated 3,936,834 in December 1957.† Thus, at the end of the period the subscription list was more than six times higher than at the beginning. The sharpness of the increase in newspaper circulation as compared with the increase of national population is indicated by the charts on the facing page. The second chart indicates the correspondence between daily newspaper readership and urban population. Canada's urban dwellers increased from 2,014,222 (including Newfoundland) in 1901 to 10,714,855 in 1956. This multiplication of the first-of-the-century figure by more than five times is closer to the proportional change in daily newspaper circulation than the over-all population increase. The interrelationship of the two is readily understandable, of course, when it is considered that dailies flourish in cities and towns, whereas weeklies usually serve the more sparsely populated communities.

As previously stated, the simultaneous growth of national, particularly urban, population might have had small effect on the nature of Canada's characteristic daily journal if these developments had been matched by a comparable rise in the number of newspapers. However, rather than a sustained rise in the number of dailies, an actual decrease took place; the 114 newspapers of 1901‡ rose to a peak of 138 in 1913, dropped to 87 in 1943 and 1945 and then increased to 99 in April 1958. The first chart gives a more complete picture of number fluctuations.

Remarkable improvements in newspaper-producing machinery made it possible for a smaller number of newspapers in 1958 to serve a readership six times as great as that of 1901. These improvements included such pre-1900 inventions as Mergenthaler's linotype and speedier and more complex presses, together with more modern innovations such as the teletype, typesetter, Scan-a-graver, Klischograph and telephoto, better colour processes, improved methods of paper storage, and higher quality inks and type faces. Such mechanical developments are described at pp. 891-892.

THE SINGLE NEWSPAPER CITY

The hand-in-hand growth in circulation and technology has had a vicious-circle quality. To serve a vastly enlarged readership, newspapers require elaborate and costly equipment; to pay for elaborate and costly equipment publishers must secure vastly enlarged readership. Under such conditions many an entrepreneur has found himself caught up in a situation in which he has had to gain all or nearly all the potential subscribers of his area if his enterprise is to continue. Thus in many communities there has no longer been room for two newspapers as there had been in the days of Mackenzie and Howe and rival journals have given no quarter in publishing battles that have ended only when all but one contestant has been driven from the field. Often the winner of a circulation

* Calculated from *McKim's Canadian Newspaper Directory, 1901*, and includes Newfoundland. Though many newspapers reported only approximate circulations, the total is reasonably accurate.

† *Ottawa Journal*, Dec. 31, 1957, quoting a Canadian Daily Newspaper Association compilation.

‡ From *McKim's Canadian Newspaper Directory for 1901*; English and French newspapers only. Morning and evening editions of the same newspaper are counted as one paper even where such editions are differently named.

fight has absorbed his opponents' publications, or at least acquired their assets of plant and subscription list. It is for this reason that so many modern Canadian newspapers have hyphenated or combination names such as *Star-Phoenix*, *l'Événement-Journal* or *Globe and Mail*.

This process has brought about a trend towards what Oswald Garrison Villard has called, in reference to the United States, "the disappearing daily". Today the one-newspaper city has become the rule, the multi-newspaper city the exception. In 1900, 66, or more than half of the country's daily journals, were established in 18 towns or cities boasting more than two newspapers; in 1958, only 14 of Canada's 99 general-interest dailies were published in the four cities of this category. In 1900, 17 towns issued two daily newspapers each, or a total of 34; in 1958, there were only nine such centres to account for 18 newspapers.* In 1958, Canada had 67 centres that were served by a single newspaper. Places which supported two or more daily newspapers in 1900 but which in 1958 had either one or none are: Nelson and Rossland in British Columbia; Belleville, Berlin (now Kitchener), Brantford, Brockville, Chatham, Galt, Guelph, Hamilton, Kingston, London, Orangeville, Peterborough, St. Catharines, St. Thomas, Stratford, Windsor and Woodstock in Ontario; St. Hyacinthe in Quebec; Fredericton and Saint John in New Brunswick; Amherst, Halifax and Yarmouth in Nova Scotia; and Charlottetown in Prince Edward Island. Calgary, Flin Flon, Sherbrooke and Chicoutimi are the only places which had either one or no daily in 1900 but which now have two.

The fact that the total number of dailies in Canada has risen from a low of 87 in 1945 to 99 in 1958 should not be regarded as evidence that the trend towards the one-newspaper centre is reversing itself. Real cause of the increase has been the settlement and growth of new areas. Over-all gains have taken place whenever a small community which had hitherto lacked a daily paper became populous enough for its weekly to convert to daily publication. Thus in 1957 gains were made when the *Summerside Journal-Pioneer*, *Prince George Citizen*, *Pembroke Observer*, *Penticton Herald* and the *Kelowna Courier* became dailies, but losses took place when the *Vancouver Herald*, *Montreal Herald* and *Charlottetown Patriot* ceased publication or continued only as a part of other newspapers. The *Montreal La Patrie* changed from a daily to a week-end paper. The *Kitimat Northern Sentinel* became a daily for a short time but reverted to less frequent publication before the year was over.

LARGER NEWSPAPERS

With fewer dailies serving more readers and with small multi-newspaper towns becoming large single-newspaper cities, there has naturally been a marked increase in the circulation of individual news-organs. Whereas at the end of the nineteenth century 66,000 for *La Presse* and 50,000 for the *Montreal Star* were the highest figures in the daily newspaper field, the *Toronto Star* established the all-time Canadian record with 422,938 subscribers in 1951 as attested by the Audit Bureau of Circulation audit of Sept. 30 of that year. Today's leaders (as shown by *Canadian Advertising* for November-December 1957, listing total net paid circulations excluding bulk) are the *Toronto Star* (397,660), *Toronto Telegram* (268,343), *Toronto Globe and Mail* (247,107), and *Montreal's La Presse* (229,968).

The size of the twentieth century daily is not indicated by circulation increases alone. The daily newspapers which have survived fifty years of intense competition are of necessity 'big business' operations, sharply different from the enterprises of pioneer press days. The modern metropolitan journal requires vast amounts of capital. Thus the late George McCullagh paid \$3,610,000 for the *Toronto Telegram* in 1948 and the reported selling price of the *Globe and Mail* when Howard Webster bought it in 1955 was more than

* This modest latter total includes two cities in which the independence of their dailies from each other is not, by any means, complete. In *Victoria* the *Times* and *Colonist* are owned by G. Max Bell and they share the same business and mechanical staff and mechanical equipment, but editorial staffs are distinct and separate, and the newspapers are quite different from each other in appearance and editorial content. Also in British Columbia, the *Sun* and *Province* are published by two companies which have formed a partnership for Vancouver but in other respects the two publications are quite distinctive.

\$10,000,000. The syndicate that purchased the *Toronto Star* to fulfill the terms of the Charitable Gifts Act had to raise an amount in excess of \$25,000,000. Some idea of the increase in newspaper magnitude which has taken place in the past half-century may also be gathered from the fact that the Dec. 24, 1956, issue of the *Vancouver Sun* printed a Christmas greeting from 814 named "folks at the *Sun*", exclusive of 3,493 "carrier salesmen, sub-managers, newsboys and wholesale distributors". This listing was in contrast to the 86 employees who produced three *Vancouver* newspapers in 1892.

CENTRALIZATION OF CONTROL

The trend toward bigness and an ever-increasing costliness of newspaper production has lent itself to a growing centralization of newspaper ownership in Canada. In 1930 99 publishers ran 116 dailies whereas in 1953 the 89 dailies in operation were controlled by 57 publishers, 11 of whom controlled about 42 or nearly half of Canada's daily newspapers.

The principal groups operating in 1958 were the Southam, the Sifton and the Thomson. Papers of the Southam family are the *Hamilton Spectator*, *Ottawa Citizen*, *Winnipeg Tribune*, *Medicine Hat Daily News*, *Calgary Herald*, *Edmonton Journal*, *Vancouver Province*, and *North Bay Nugget*. The Sifton organization, although control has been somewhat decentralized recently, owns the *Winnipeg Free Press*, *Regina Leader-Post*, and *Saskatoon Star-Phoenix*. Roy W. Thomson has been adding constantly to his properties, so that any listing of his newspaper holdings is soon out of date. In June 1958, the following Canadian dailies were members of the Thomson group: *Kamloops Daily Sentinel*, *Kelowna Courier*, *Nanaimo Free Press*, *Penticton Herald*, *Moose Jaw Times-Herald*, *Prince Albert Herald*, *Chatham News*, *Galt Reporter*, *Guelph Mercury*, *Kirkland Lake Northern Daily News*, *Orillia Packet and Times*, *Oshawa Times-Gazette*, *Pembroke Observer*, *Port Arthur News-Chronicle*, *Sarnia Observer*, *Sudbury Star*, *Timmins Press*, *Welland-Port Colborne Tribune*, *Woodstock-Ingersoll Sentinel-Review*, *Quebec Chronicle-Telegraph*, and *Charlottetown Guardian and Patriot*. Thomson also owns papers in Florida and the United Kingdom.

The Canadian dailies in these three groups had in 1958 a daily combined circulation of about 950,000, or about 25 p.c. of the combined daily newspaper circulation of Canada. Among members of the three newspaper organizations there has been a disposition to avoid the word 'chain'. They insist, quite properly, that they do not represent a single viewpoint and do not unite in concerted action in their coverage of public issues. Of the Southam group the *Ottawa Citizen* has been slightly left of Liberal at a time when many of its sister papers were giving a general but not doctrinaire support to the Conservative viewpoint. The *Edmonton Journal* has, in the past, engaged in heated controversy with the Social Credit government of Alberta, although for a long period the *Ottawa Citizen* regarded the views of that party with considerable favour. The three Sifton papers are all independent Liberal, but the *Winnipeg Free Press* has been one of the country's most outspoken critics of various federal Liberal governments, particularly on such issues as western agricultural policies and tariffs on farm machinery. In Saskatchewan, the *Regina Leader-Post* has been more inflexible in its opposition to the provincial C.C.F. government than has the *Saskatoon Star-Phoenix*. As for the Thomson papers, business considerations rather than ideological or political interests have connected the members of the organization.

THE DEPERSONALIZED NEWSPAPER

A feature of Canada's press mutation, particularly of the one-newspaper-city situation that is part of it, has to do with the tone and content of the modern daily. One frequently heard criticism of Canadian journalism is that the press does not reflect minority opinion. Since the average city has only one newspaper, so the argument goes, only one political or social or religious viewpoint will find newspaper expression in most communities. The defect is, in reality, of quite a different character. Because Canada's large daily newspaper must, to survive, have a mass circulation, it cannot afford to offend any appreciable segment of the population. It will not antagonize its readers by taking a doctrinaire,

forthright stand on contentious issues. Instead it will follow a 'public service' approach to policy, seeking to serve the whole community rather than any special section of it. The criticism now becomes not that the press is unfair in its treatment of the community's minorities, but rather that it is not outspoken enough, that it is too conciliatory in tone, that it aims at being inoffensive and innocuous when it should be giving strong leadership in matters of vital public concern. In this respect, there have been gains as well as losses, of course. Changing economic factors as well as the good example set by such journalists as Sir John Willison and Sam Kydd have taken the narrow bias and poisonous scurrility out of the newspapers. That change has been all to the good.

In some respects the monopoly of the one-newspaper city is less serious than it at first appears to be. While it is true that most Canadian centres have only one daily publishing within their confines, very often there are several circulating within their areas. In Eastern Canada, for example, many towns are served not only by their local papers but also by the *Toronto Globe and Mail*, *Montreal Gazette*, *Toronto Star*, *Toronto Telegram* and *Montreal Star*. The home-produced journal is usually supreme in its coverage of on-the-spot items, but it is not dominant by any means in its presentation of national and international news. Furthermore, the newscasts of local radio and television stations have worked against any easy and comfortable monopoly by individual dailies.

THE PUBLISHER AND THE ADVERTISER

As the business department of the newspaper has come more and more to dominate the daily newspaper, the businessman-publisher has tended to displace the proprietor-editor and printer-editor as the figure of most influence in Canadian journalism. Although John W. Dafoe, Henri Bourassa, John Willison, D. B. MacRae and E. Cora Hind are remembered for what they did in the editorial branch of journalism, and although George Ferguson, Grant Dexter, Bruce Hutchison, Gérard Filion and André Laurendeau are modern-day writers of power and prestige, Sir Clifford Sifton, Lord Atholstan, Joseph Atkinson Sr., the Southams, Trefflé Berthiaume, Rupert Davies, Roy Thomson, Howard Webster, John Bassett Sr., John Bassett Jr., and Don Cromie have been great powers in determining what the modern press of Canada has come to be.

A question often asked of the North American press is whether today's revenue-seeking publisher is not too susceptible to the pressures exerted on his newspaper by the advertisers he is sometimes too anxious to please. What has made the huge circulation gains of the twentieth century so valuable to the publisher is, of course, not increased subscriber revenue but rather greatly augmented advertising returns. Being so dependent on the advertising dollar, so it is widely claimed, the modern newspaper has become unduly sympathetic to the advertisers' wishes. Persons critical of contemporary Canadian journalism often assert that advertisers frequently determine what is printed and what is left out of the paper, and that they often decide a paper's policy on particular issues. There is little evidence that this charge is, in any large measure, true. For one thing the modern daily is itself a big business operation, unlikely to be greatly damaged by the boycott of a single advertiser. For another, it has services to offer the advertiser which are just as desirable to him as advertising income is to the newspaper's publisher. As William Allen White once pointed out in connection with the American situation, the press reflects big business, not because of any improper advertising pressure but because the modern publisher is himself a big businessman, sympathetic to the views and aspirations of his class.

TIMELINESS OF NEWS COVERAGE

The mechanical improvements in newspaper production and a considerable pooling of news-gathering resources which have helped to make the press of Canada a large-scale operation have also brought about an ever-growing timeliness of news coverage. Until at least 1907 there were no more than a dozen Canadian dailies that provided anything like an adequate presentation of the affairs of the entire nation, and they only through the efforts of a small number of over-worked special correspondents. The special cable service for Canada gained through formation of the Western Associated Press, and the

later establishment of Canadian Press and British United Press (now referred to also as United Press International) accelerated the speed-up. Today the teletype brings in news from distant places while it is still fresh enough to be included in a newspaper. The modern typesetter permits the inclusion of even more last-minute news than was previously possible; it frees members of the newspaper's mechanical staff to set up more local news items; it allows papers to build up a backlog of 'time copy' without imposing extra labour on the typesetters.

Two twentieth century developments, one somewhat unexpected, are related to the increasing timeliness of the press. One of these is the virtual disappearance of the newspaper 'extra', a disappearance that took place sometime between the two world wars. It is somewhat surprising that this 'most-up-to-date' newspaper edition should be discontinued at the very time the press was becoming increasingly up-to-the-minute. In this case, however, the radio proved powerful enough to reverse a trend. Since the broadcasting agencies could disseminate news more quickly than even the fastest newspapers, the novelty value of the extra was lost.

The second development was the shift from the morning to the evening dailies as the most numerous and largest newspapers. This change, more marked in Central and Western Canada than in the Maritimes, occurred particularly during World War I when nearly all of the major news stories of the European struggle 'broke' in time for evening rather than morning editions. This shift has continued because Canada's working populace does not find as much time for newspaper reading in the morning as it does in the evening. The result is that today many cities such as Ottawa, whose *Journal* and *Citizen* both discontinued their morning editions in recent times, have only afternoon papers. In centres such as Calgary, Montreal and Toronto which have both kinds of journals, the afternoon publications almost invariably have larger circulations than the morning papers. In the rare instances where the reverse is true, the exception is often accounted for by special circumstances. In Victoria, for example, the dominance of the morning paper is probably accounted for in part by the fact that a large proportion of the population consists of retired persons who have morning leisure for newspaper reading.

NEWSPAPER CONTENT AND TONE

It would be quite impossible even to list the great stories that have found place in Canadian newspapers during the twentieth century. In that period the most obvious new ingredient was the international story, brought to the Canadian readers more speedily, in fuller detail, and from more remote places than previously. Long, continuing events like the Russo-Japanese war, the Japanese adventure in Manchuria, League of Nations deliberations, the Italian invasion of Ethiopia, the Spanish Civil War, the Suez Crisis, and the Russian suppression of the Hungarian revolt received continuing attention and gained front-page banners on event-filled days. First place in both space and prominence was claimed by accounts of national disasters, of personal tragedy, and heroic individual exploits: the San Francisco Earthquake, the Halifax Explosion, the Eruption of Mount Pelee in Martinique, the Messina Earthquake, the Sinkings of the Titanic and the Lusitania, the Moose River Mine Disaster, the Winnipeg Flood, the Assassination of McKinley, the Death of Roosevelt, the Murder of Dolfuss, Lindbergh's Transatlantic Flight, the Perfection of Salk Vaccine, the Dropping of the First Atom Bomb, and the Launching of Sputnik I are but a few of countless possible examples. The long full story of the First and Second World Wars and the Korean War was given a completeness of treatment that depended on the magnitude of the tragic struggles and also on Canada's deep involvement. The press told the story of Canada's growing autonomy as fully as it had described the evolution of Responsible Government during the Second Press Period, and the achievement of Confederation during the Third. However, the continuity of the self-government theme tended to be obscured by the episodic nature of the innumerable events that were part of the long-term evolutionary process. Additionally, the myriad-detailed accounts of a multitude of other unrelated happenings had the effect of burying the story of the purely Canadian development. Anyone who wishes to learn that story from Canadian

dailies must cull out the thorough, detailed but usually scattered news reports of such matters as the Alaska boundary dispute, the pelagic sealing award, the Dundonald incident and its consequences, Canada's role in various Imperial Conferences, the appointment of the first Canadian Ambassador to Washington, the pronouncements of John W. Dafoe and John S. Ewart on Dominion status, the Balfour Declaration and the Statute of Westminster, the changing power of the Canadian nation to sign military and trade treaties, Canada's declarations of war in 1914 and 1939, the abolition of appeal to the Privy Council, and Canada's growing influence in the United Nations, particularly during the Suez crisis, and in United Nations agencies.

Entertainment features have come to occupy an increasingly important part in the press of Canada. Papers which in 1900 had been content to publish a single page of antiquated jokes and a few one-panel cartoons, began to add, during the first few years of the century, such American syndicated full-page and half-page comics as Buster Brown, Little Nemo, the Rarebit Fiend, the Katzenjammer Kids, Peck's Bad Boy and Happy Hooligan. Somewhat later Tillie the Toiler, Andy Gump, Barney Google, Cap Stubbs, Lester de Pester, and the Nebbs appeared. More recent favorites are Li'l Abner, Blondie, Pogo and Peanuts. Today's comics usually include a page or two of black and white strips on week days and an entire colour section of full-page and half-page comics on Saturdays.

Other modern non-news components of the daily press are cross-word puzzles, bridge and chess columns, advice to the lovelorn features, personal advice columns, Bible readings, astrology departments, cooking, homemaking, sewing, and children's pages. Most papers furnish radio and television program listings. Films are well advertised, and drama, art, ballet and book criticism find a place, usually at week-ends. Syndicated columnists, most of them American, are prominent. Fiction and poetry contributions are less numerous than they were at an earlier time, particularly in week-day issues. It is difficult to foretell the effect of competition from television on newspapers, but it may be that the newer medium will cause newspapers to lessen their entertainment role and concentrate more fully on the presentation of news.

Advertising forms a major part of modern newspaper content. Successful dailies devote from 40 p.c. to 60 p.c. of their content to advertising, classified or unclassified. The classified sections, which are extremely large in most metropolitan dailies, have genuine news value and serve readers in the same way as does an open marketplace with its offerings of goods and services. To perhaps a lesser extent this is also true of unclassified advertisements, which are usually notable for their persuasiveness and eye-appeal. With some justice critics attack such advertising on the grounds that it is often extravagant and misleading. Certainly some copywriters do exaggerate the effectiveness of the products they extol, but today the fault is more one of degree than kind and the modern reader who has learned to make downward adjustments in evaluating such claims is not too often deceived. Indeed, modern advertising is much more praiseworthy than a pre-1900 counterpart that was often irresponsible and even criminal in its bold claims on behalf of harmful and dangerous nostrums, and in its cruel promises to cure cancer, tuberculosis and other dread diseases.

The tone of the modern newspaper is suitable to its omnibus content. Today's press is much freer of the libellous, *sub-judice* and contempt-of-court matter common earlier. No longer do newspapers refer to a person arrested in connection with a killing as "the murderer" as they did at the beginning of the century. In the general-interest paper, at least, wholesale reporting of obscure suicides has been discontinued. Present newspapers do not often describe death by fire as "cremation" as did countless head-writers of fifty years ago. Such minutely detailed and gory accounts as that of the Chicago theatre disaster of Dec. 31, 1903, which appeared in the daily general-circulation newspaper of that period are now to be found only in the crime 'pulp' or the tabloid scandal sheets of Toronto and Montreal.

Today Canadian journalists aim at objectivity in their news stories, reserving opinion and comment for the editorial section of their publications. Modern thinking, however, is that a mere dispassionate recital of the bare details of an event is no guarantee of such

objectivity, since the selection of the facts to be reported or omitted can of itself make a news report highly subjective. The plea is therefore properly made for reporting the background details of an incident, for furnishing an account that is interpretive. However, the shortcomings of the news report which such interpretation aims to correct must not be made the excuse for writing opinion disguised as fact. The worth of C. P. Scott's dictum is still unchallenged: comment is free but facts are sacred.

Modern editorials differ considerably from the editor's effusions of an earlier day. Today's journalist realizes that editorial preachments are not so effective as they once were. Life is now so complex that social, political, scientific and other matters that affect existence defy easy analysis. They do not lend themselves to old-fashioned clarion calls to a clear-cut course of action which the old-time editor was so fond of issuing. The editor's function is no longer to say, "Do this; do that", but rather to say, "Here are the facts and issues of the matter, as fully and dispassionately as the considerable resources of our newspaper enable us to present them; make up your own mind about this problem". Whereas the early editorial writer claimed infallibility, the modern editorial writer aims at omniscience.

FORMAT AND MAKE-UP

The physical appearance of the newspaper page has continued to change. An even greater departmentalization of content has proved highly convenient to the busy reader and the fewer label heads used now serve normally to mark regular features. Hanging indents, overlines, inverted pyramids and related arrangements give variety of make-up. The lengthy series of sub-heads which once followed a 'line' story head to provide a virtually complete synopsis of a news event has been replaced by a single, descriptive 'deck'. Full-width, 72-point and larger streamers have become much more common than they were in 1900, but most recently there has been a tendency to discriminate between more and less important news stories by reserving the page-width 'line' for more consequential news events. Editors today favour the inverted pyramid with its synoptic 'lead' for the news story. There is some opposition to this artificial writing arrangement but no one has been able to suggest how a chronological news account is to be adapted to the conditions of modern newspaper production, nor, for example, how such natural-order treatment is to avoid providing the *New Yorker* with even more startling examples for its "Most Fascinating Story of the Week" section.

Newspaper size has increased during the twentieth century. Journals which regularly contained 16 or 20 pages an issue now have 32, 36 or 40 pages, and for special occasions may be much larger. Several metropolitan dailies such as the *Toronto Star*, *Toronto Telegram*, *Montreal Star* and *Vancouver Sun* are regularly larger. Page width has varied over the period. Papers not of tabloid (five column) size were, at the start of the century, most commonly of seven columns. More recently these have added an extra column. Within the past five years increased production costs (particularly newsprint costs) have caused certain newspapers to make changes; for instance the *Toronto dailies*, in order to increase the amount of printed matter per page, have gone to nine columns, using narrower spaces between columns but not adopting wider pages. An incidental advantage is that an odd number of columns permits greater variety of make-up. News-organs such as the *Ottawa Citizen*, *Ottawa Journal* and *Montreal Gazette* have achieved savings by reducing page width while still retaining the eight-column format. Papers like the *Toronto Star* and *Ottawa Journal* have coupled their innovations with the use of a new body type which is more legible and in which the ink does not clog so readily. The *Ottawa Citizen's* reduction of column width from 13.5-pica columns to 11-pica columns over the years typifies a change that has taken place in many newspapers. The *Ottawa Citizen* has achieved contraction by shrinking the stereo mat rather than by shortening the linotype 'slug', so that the newspaper is still able to make use of standard-width C.P. typesetter material.

MECHANICAL INNOVATIONS

Not the least of twentieth century innovations used in the mechanical production of the newspaper has been the teletype, introduced into Canadian newspapers during the 1920's. This invention speeded up the dissemination of news, made possible the pooling

of news-gathering facilities and the sharing of costs, and contributed to a considerable increase in the national and international content of Canada's news pages. After 1950 the teletypesetter came into general use in Canadian dailies. This machine is a device which harnesses a teletype to a linotype. On a narrow punched paper tape as well as on a typed page it feeds out stories to member papers of press associations. The tape can be fed to a teletypesetter, which operates the linotype automatically, in much the same way as a player-piano roll works the keys of a piano.

Improvements in typesetting have been matched by faster and better methods of producing newspaper pictures. Pre-1900 devices for making mats and cuts have been steadily perfected so that the pictorial content of the 1958 newspaper is much superior to that of its first-of-the-century counterpart. In addition, faster photo-engraving has been provided by the Scan-a-graver and Klischograph, first introduced in the 1950's. The Scan-a-graver is a device that 'scans' a photographic print and, with the aid of an electric eye as synchronizer, reproduces it as a plastic engraving. This process is much cheaper than more conventional methods and permits newspapers to do their own engraving, thereby eliminating the delay caused by having to send pictures out to private engravers. Many newspapers, however, still favour more conventional photo-engraving methods. Scan-a-gravers and scan-a-sizers, which reduce or enlarge the size of the original illustration, may not be bought outright but may be leased only. The Klischograph, an on-the-spot engraver quite similar in principle to the Scan-a-graver, can be purchased outright; it is probably more popular in the country weekly than in the metropolitan daily field.

Canadian Press began a telephoto service for Canadian dailies in the 1950's, allowing them to present pictures of news events very soon after they happened. Telephoto permits photographs to be transmitted by wire and reprinted thousands of miles away. World coverage for Canadian newspapers is furnished through a link-up with international press agencies. Recent advances permit daily newspapers to carry colour pictures of good quality with little time delay. An improved four-colour process achieves subtle and complex effects not previously possible and large multi-coloured advertisements have become particularly attractive. Very often daily papers which once saved their bright hues for Saturday comics and week-end supplements now live on single pages on week-days by including illustrations in the more exotic tints and shades. Such use is still somewhat limited, however, by the costliness of the process.

COSTS AND PRICES

A sharp rise in costs to the newspaper publisher which has been particularly marked during the postwar period has been accompanied by a general rise in the price of individual copies to the reader. Newsprint has become more expensive and many journals are finding that subscription revenue does no more than pay for newsprint. Two or three years ago such papers as *Le Devoir* in Eastern Canada and the *Times*, *Colonist*, *Sun* and *Province* in British Columbia raised the price of individual copies from the five cents which had so long been a standard price, and the *Toronto Star*, *Telegram*, *Globe and Mail*, and scores of other dailies have since followed suit. Current prices range from seven to ten cents per copy. A factor contributing to price increase has been the need to make up for revenue losses resulting from a small but important drop in advertising lineage, ascribable in part to competition from television.

THE PRESS AGENCIES

Although Canada's size has so far prevented the establishment of any truly national dailies such as the London *Times* and *Manchester Guardian* for England, the journalism climate provided by enlarged newspapers, a centralized control and a considerable expansion in news coverage has been eminently suited to the growth of nation-wide news-gathering services. In one of them there has been a highly successful pooling of resources.

Canada has two major news-gathering agencies: the Canadian Press and British United Press. The Canadian Press, which had its origin in the Western Associated Press, was established in 1917 as the Canadian Press Limited and gained its more modern structure

in 1923. From 1917 on, CP had accepted an annual subsidy of \$50,000 from the Federal Government to pay the cost of bridging three geographical gaps in its wire services, but in 1925, fearful that its independence was being threatened by the acceptance of such aid, it resolved never again to take such assistance from any source. The CP is a co-operative organization of which 100* daily newspapers are members. Its head office is in Toronto, and it has bureaus in Halifax, Quebec City, Montreal, Ottawa, Winnipeg, Edmonton, Vancouver, New York City, and London, England. It keeps staff men in St. John's, Nfld., Saint John, N.B., London and Windsor, Ont., Regina, Sask., Calgary, Alta., Victoria, B.C., and Washington, D.C., U.S.A. Its major exchange services are with the Associated Press, the United States co-operative, and with Reuters, the British agency. For a long time, CP provided service to members in English only but in 1951 a French-language service was introduced. CP serves, in addition to the Canadian Broadcasting Corporation, 198 privately owned broadcasting stations, 162 radio and 36 television stations. Many weekly newspapers also use CP material.

The British United Press, the British Commonwealth branch of the American organization, the United Press, was begun in 1922, largely at the instigation of Charles Crandall, managing editor of the *Montreal Star*. Both the parent company and its subsidiary are private agencies; that is, they depend on the writing and reporting of their own reporters for all copy. The principal area of operations of BUP has been Canada, although there is a branch office in London, England, and correspondents are situated in other parts of the world. Until May 1958, the board of directors of BUP consisted of five men, three from BUP and two from UP. In that month United Press and International News Service in the United States merged to form United Press International. To the Canadian company this has meant only a change in the credit on its news reports from BUP to UPI. British United Press has remained the company's official name. At the time of the union the board of directors of the Canadian body was enlarged to seven men: BUP's managing director, BUP's assistant general manager, the chief of BUP's London bureau, the president and three vice-presidents of UPI. Head Office for Canada is in Montreal, while bureaus or correspondents are located in Halifax, N.S., Quebec City, Que., Toronto, Ottawa and Windsor, Ont., Winnipeg, Man., Regina, Sask., Calgary and Edmonton, Alta., and Vancouver and Victoria, B.C. In 1958, BUP had 183 subscribers taking full or partial services; 56 of them were private broadcasting stations.

FREEDOM OF THE PRESS

Early in the twentieth century the body of libel legislation, which had had its beginning in Victorian days, was completed. This achievement came about when Saskatchewan and Alberta (which had been served in the matter by c. 30 of the Consolidated Ordinances of 1898 while the two provinces were part of the North-West Territories) put their own libel and slander Acts on the statute books. The Saskatchewan enactment was assented to in 1909 and that of Alberta in 1913. These two Acts and previous laws passed by the Federal Government and by the other provinces went a long way to ensure a free and responsible press. Even so, such legislation can never be a completely effective guarantor of enduring press liberty. There has been in Canada during the modern journalism period recurring evidence that freedom is always in danger, that Goethe's dictum is true: "That which thy fathers have bequeathed thee, win it anew if thou wouldst possess it".

One demonstration of the impermanence of a guaranteed newspaper liberty was provided by the Alberta Press Act struggle in the late 1930's. Soon after Premier William Aberhart came into power in the oil province in 1935 he clashed with the press. Stung by newspaper criticism of his monetary and other policies, he barred certain opposition reporters from his press conferences, engaged in bitter controversy with J. J. Zubick and the anti-Social Credit *Rebel*, and argued with J. F. B. Livesay and the Canadian Press. Climax of the worsening situation came in 1937 when Aberhart introduced "An Act to Ensure the Publication of Accurate News and Information". Its principal provisions

* Some newspapers elsewhere considered as separate editions of the same newspaper are, in the CP computation, considered separate newspapers.

were: a requirement of papers to publish any statement furnished by the Social Credit Board "which has for its object the correction or amplification of any statement relating to any policy or activity of the Government of the province published by that paper within the next preceding 31 days"; and a requirement to name within 24 hours sources of any statement made in that paper within the preceding 60 days of the making of an order so to do, as well as to name the writer of any article, editorial, or news item appearing during the same period. Fines of \$500 were provided for failure to comply with these conditions. The Act would also have empowered the Alberta Government to prohibit publication of newspapers contravening the provisions mentioned "for a definite time, or until further order", and to prohibit publication in any newspaper of the writing of "any person specified in the order". Contraventions of Orders in Council made under these provisions could bring a fine of \$1,000.

Although Premier Aberhart had characterized the Act as a device "to restore freedom (of the press) from the clutches of financial, political and commercial organizations", Canadian journalists considered the legislation to have a much more hostile purpose. The press of Canada united under the late John M. Imrie of the *Edmonton Journal* to fight against the proposed measure. With Imrie as chairman, a committee was formed to oppose the Bill, and the late J. L. Ralston, K.C., was hired as legal counsel for the Alberta publishers. In Canada at large the Canadian Press and Canadian Daily Newspaper Association joined forces for the impending battle.

When Alberta's Lieutenant-Governor refused to give assent to the Press Bill, it became matter for court debate. In March 1938, the Supreme Court of Canada declared the Act *ultra vires* (beyond the power) of the Alberta Government, and in July of the same year it met final defeat when the judicial committee of the Privy Council refused to review it on the grounds that it was ancillary to the broader Social Credit legislation which the British body had previously ruled *ultra vires*. For the latter reason it is probably the verdict of the Canadian court that is significant. In handing down his decision, Chief Justice Lyman Poore Duff gave it as his opinion that "it is axiomatic that the practice of (the) right of free public discussion of public affairs, notwithstanding its incidental mischief, is the breath of life of parliamentary institutions".

The outcome was a distinct victory for newspaper liberty in Canada. For his part in the fight Imrie received, on behalf of the *Edmonton Journal*, a bronze plaque, the first Pulitzer award to go to a newspaper outside the United States. Five other dailies and 90 weekly newspapers of the province were given engraved certificates for their role in the victory.

A second Canadian controversy involving press freedom had its origin in an article entitled "Babies For Export". This appeared in the *New Liberty* magazine of Dec. 27, 1947. It described adoptions by outsiders of babies from the Province of Alberta. Publication of the article led to charges of "conspiring to publish a defamatory libel". These were laid against Jack Kent Cooke publisher of the magazine, the late Harold Dingman who had written the article, and Dr. Charlotte Whitton who had prepared the report on which the article was based.

The indignation aroused by the case arose from the fact that the defendants, who were all Ontario residents, were forced to travel 2,000 miles to an Edmonton courtroom to face trial. The Canadian Daily Newspaper Association, the Canadian Press, newspapers throughout Canada, and many others vigorously protested the Alberta action on the grounds that it was an attempt to avoid the plain meaning of Sect. 888 of the Criminal Code, which expressly stated that the place of trial in criminal prosecutions for libel against the publisher of a newspaper shall be within the province in which he resides or in which the newspaper is published. It was contended that, by making the charge one of 'conspiracy to publish' rather than one of 'libel' the attorney-general's department was destroying the protection for publishers which the Section was plainly intended to provide. Critics of the Alberta action saw in existing legislation a loop-hole in laws designed to guard press freedom.

The trial itself did nothing to remove the danger that the case had exposed. One by one the charges against the three defendants were dropped without the necessity of court decision. Finally, only one charge remained, that of "counselling the publication of a defamatory libel", and that against Cooke alone. The court acquitted the *New Liberty* publisher of this charge in April 1948, to end the case. The weakness in the law itself was removed on June 30 of the same year when a federal Bill to amend the Criminal Code received Royal Assent. The amendment required that a person charged with defamatory libel or *conspiracy to publish* defamatory libel must be dealt with—indicted, tried and punished—in the province where he lives or in which the newspaper is published.

A longer-lasting threat to press freedom was to be found in Quebec's Padlock Law. Its true origin was the Winnipeg Strike of 1919. That stormy event led to the passage of Sect. 98 of the Criminal Code, an enactment carrying stiff penalties against persons convicted of unlawful association, sedition and the publishing of seditious material. Strong efforts to repeal the freedom-restricting law were carried on from 1921 until they were successful in 1936. Mr. Duplessis, elected Premier of Quebec in that year, took the view that the Criminal Code amendment left the country dangerously exposed to Communist propaganda and he introduced a piece of legislation designed to take the place of Sect. 98. This was "An Act to Protect the Province Against Communist Propaganda"—the so-called Padlock Law. The Act empowered the Attorney-General of the province to close for twelve months any establishment suspected of harbouring Communist activities. It also made unlawful the printing, publishing or distributing in the province of "any newspaper, periodical, pamphlet, circular, document, or writing whatsoever propagating or tending to propagate communism or bolshevism". Penalty for violating the latter regulation was "an imprisonment of not less than three months, in addition to the costs of prosecution, and in default of payment of such costs, . . . an additional imprisonment of one month".

Persons concerned with freedom of the individual protested vigorously against the Padlock Law. They characterized it as itself a denial of law. They pointed out that, without defining what Communism or Bolshevism is, it permitted the State to declare persons to be Communists or Bolsheviks, it gave the accused no chance to refute such charges, and it did not require the courts to make a case against those so charged. The contention was that under such conditions the Attorney-General became "policeman, prosecutor, judge, sheriff and hangman".

Despite such protests, Mr. Duplessis invoked the Padlock Law on several occasions. Up until the Union Nationale Government's defeat in 1939 the law was applied at least thirteen times. After Mr. Duplessis' return to power in 1944, it was again enforced, as in February 1948 when not only *Le Combat*, an admittedly labour paper, was closed but also *Le Progrès de Villeray*, the non-Communist newspaper in whose plant *Le Combat* had been printed, and in January 1950 when the Attorney-General padlocked the premises occupied by the Jewish People's Order of Montreal.

What made removal of the law from the statute books difficult was the fact that victims of the Padlock Law could not sue the Quebec Government without its *fiat* or consent. The Quebec Government refused to grant *fiats*. However, as a result of an unusual circumstance, the Padlock Law did come before the law courts. On Dec. 29, 1947, Freda Elbling rented her Montreal Park Avenue apartment to Max Bailey. The lease carried the right to sublet. Accordingly, on Dec. 23, 1948, Bailey sublet the Elbling premises to John Switzman who was, by his own admission, a Communist at that time. On Jan. 27, 1949, the Attorney-General of Quebec ordered the apartment padlocked. This was done and the papers therein were seized. Immediately Freda Elbling sought in court to annul the lease and recover damages from Switzman. Switzman defended himself on the grounds that the Padlock Law was *ultra vires* of the province, or unconstitutional, and that he should never have been molested. In this way the Padlock Law was taken into court without any *fiat* being needed.

When, in 1950, the trial division of the Queen's Bench in Quebec, in a case in which the provincial government intervened in support of the statute, found against Switzman, he appealed the judgment to the Court of Appeal in Quebec. There, in 1954, the verdict of the lower court was upheld in a four-to-one vote. Further appeal was delayed until supporters of Switzman could raise enough money to take the case to the Supreme Court of Canada. This was done late in 1956. As the case was argued, the main contention of the respondent (Quebec Government) was that Padlock Law involved property and civil rights, matters allocated to the provincial jurisdiction by Sect. 92 of the British North America Act. Legal counsel for the appellant (Switzman) maintained that the Law dealt with civil liberties, which were quite a different matter. Professor Frank L. Scott, of McGill University, one of the lawyers who represented Switzman, maintained that the Padlock Law interfered with the Dominion Elections Act, that it created a new crime, thereby encroaching on Parliament's jurisdiction over criminal law, that it gave the Attorney-General of Quebec judicial powers, and that it interfered with freedom of speech, press and assembly.

On Mar. 8, 1957, the Supreme Court of Canada, by an eight-to-one vote, ruled that the Padlock Law was beyond the legislative powers of the Province of Quebec. In supporting the majority decision Mr. Justice I. C. Rand said:—

"... Canadian government is in substance the will of the majority expressed directly or indirectly through popular assemblies. This means ultimately government by the free public opinion of an open society, the effectiveness of which, as events have not infrequently demonstrated, is undoubted.

"But public opinion, in order to meet such a responsibility, demands the condition of a virtually unobstructed access to and diffusion of ideas. Parliamentary government postulates a capacity in men, acting freely and under self-restraints, to govern themselves; and that advance is best served in the degree achieved of individual liberations from subjective as well as objective shackles. Under that Government, the freedom of discussion in Canada, as a subject-matter of legislation, has a unity of interest and significance extending equally to every part of the Dominion...

"This constitutional fact is the political expression of the primary condition of social life, thought and its communication by language. Liberty in this is little less vital to man's mind and spirit than breathing is to his physical existence. As such an inherence in the individual it is embodied in his status of citizenship."

Legally, Quebec's Attorney-General, Mr. Duplessis, had the right to appeal against the Canadian Supreme Court decision to the judicial committee of the Privy Council in England. He would be able to do this because the Switzman-Elbling case had its beginning before Dec. 9, 1949, the date when the Supreme Court of Canada was made the final court of appeal for Canadian cases. Mr. Duplessis announced that he would not take this step. It seems, therefore, that the threat to press freedom once posed by the Padlock Law is now ended.

CURRENT DAILIES

Any comprehensive history of Canadian journalism must take into account individual newspapers. The value of the following list of dailies being currently published is to indicate which dailies have proved strong enough to survive twentieth-century competition. This list, prepared as at the end of 1957 and the beginning of 1958, is not, of course, likely to remain long unchanged: new dailies are founded from time to time and old ones die or merge with other papers. The founding year is given only for those papers established during the twentieth century; it is the year the news-organ began to publish rather than the year it was converted from less frequent to daily publication. The first name following such newer papers is usually that of the founder of the journal. Other persons included are journalists who gave important service on the newspaper. Hundreds of eminent journalists are, of course, necessarily omitted.

NEWFOUNDLAND—

Corner Brook <i>Western Star</i> , 1900.....	Dr. Walter S. March
St John's <i>News</i>	Hon. J. S. Currie, L. C. Currie
St. John's <i>Telegram</i>	The Herder family, C. E. A. Jeffery, M.B.E.

PRINCE EDWARD ISLAND—

- Charlottetown *Guardian and Patriot*..... The Burnett family, Frank Walker, the
Hon. F. R. Heartz
Summerside *Journal-Pioneer*

NOVA SCOTIA—

- Amherst *News*
Halifax *Chronicle-Herald Mail-Star*..... William Dennis, Senator W. H. Dennis,
Mrs. Evelyn Tufts, Frank W. Doyle
New Glasgow *News*, 1910
Sydney *Cape Breton Post*
Truro *News*

NEW BRUNSWICK—

- Fredericton *Gleaner*..... The Crockett family, Brigadier J. M. S.
Wardell
Moncton *L'Évangeline*..... C. A. Melanson, Emery LeBlanc, Euclide
Daigle
Moncton *Times and Transcript*..... W. Clare Ganong
Saint John and Lancaster *Telegraph-Journal*
and *Evening Times-Globe*..... J. E. B. McCready, Ernest W. McCready,
Stuart Trueman

QUEBEC—

- Chicoutimi *Le Progrès du Saguenay*
Chicoutimi *Le Soleil au Saguenay*
Granby *La Voix de l'Est*
Montreal *Le Devoir*, 1910..... Henri Bourassa, Omer Héroux, Olivier
Asselin, Gérard Filion, André Laurendeau
Montreal *Gazette*..... R. S. White, Senator Smeaton White,
John Bassett Sr., Fred Mears, Edgar A.
Collard
Montréal-Matin, 1930
Montreal *La Presse*..... Trefflé Berthiaume, Lorenzo Prince, Arthur
Danséreau, Hervé Major, Edouardina
Lesage (Colette)
Montreal *Star*..... Lord Atholstan, J. W. McConnell, John G.
McConnell, George V. Ferguson, Kenneth
Edey
Quebec *L'Action Catholique*, 1907..... Dr. Jules Dorion, Dr. Louis Philippe Roy
Quebec *Chronicle-Telegraph*..... J. Leonard Apedaile, Frank Carrel, Arthur
G. Penny
Quebec *Le Soleil-l'Événement-Journal*..... Senator Jacob Nicol, Henri Gagnon, Paul
Paradis, Lt.-Col. Oscar Gilbert
Sherbrooke *Record*
Sherbrooke *La Tribune*, 1910
Trois Rivières *Le Nouvelliste*..... Senator Jacob Nicol, Émile Jean, Honoré
Danséreau, Hervé Biron

ONTARIO—

- Belleville *Ontario Intelligencer*
Brantford *Expositor*..... T. H. Preston
Brockville *Recorder and Times*
Chatham *News*
Cornwall *Standard-Freeholder*..... Col. R. R. MacLennan
Fort Frances *Daily Bulletin*, 1934
Fort William *Times-Journal*
Galt *Reporter*..... The Jaffray family
Guelph *Mercury*
Hamilton *Spectator*..... F. I. Ker, St. Clair Balfour Jr., W. J.
Southam
Kenora-Keewatin *Daily Miner & News*
Kingston *Whig-Standard*..... Senator Rupert Davies, Arthur L. Davies,
Arnold Edinborough
Kirkland Lake *Northern Daily News*, 1922
Kitchener-Waterloo *Record*
Lindsay *Post*
London *Free Press*..... Walter J. Blackburn Sr., and Jr., Arthur S.
Blackburn, Arthur Ford, Randolph
Churchill

ONTARIO—concluded

Niagara Falls Review	
North Bay Nugget, 1908.....	A. G. Davie, William Edge Mason
Orillia Packet and Times	
Oshawa Times-Gazette.....	McIntyre Hood
Ottawa Citizen.....	H. S. and W. M. Southam, Robert Southam, Charles Bowman, Ernest W. Harrold, Charles Woodsworth, Marshall Yarrow
Ottawa Le Droit, 1913.....	Rev. Fr. Charles Charlebois, Charles Gautier, Camille L'Heureux, Charles Bruyère
Ottawa Journal.....	P. D. Ross, E. Norman Smith, Grattan O'Leary, I. Norman Smith, V. M. Kipp, James McCook
Owen Sound Sun-Times.....	C. A. Fleming, Howard Fleming
Pembroke Observer.....	Alfred Logan
Peterborough Examiner.....	Senator Rupert Davies, Robertson Davies, G. Wilson Crow
Port Arthur News-Chronicle, 1903.....	E. B. Mackay
Port Hope Guide.....	Frederick W. Wilson, W. T. R. Preston
St. Catharines Standard.....	W. B. Burgoyne
St. Thomas Times-Journal	
Sarnia Observer	
Sault Ste. Marie Star, 1901.....	James W. Curran
Sioux Lookout Daily Bulletin, 1936.....	Kenneth D. Campbell
Stratford Beacon-Herald.....	L. H. Dingman, Charles D. Dingman
Sudbury Star, 1909.....	George J. Ashworth, William Edge Mason, James R. Meakes
Timmins Press, 1933	
Toronto Globe and Mail.....	W. G. Jaffray, Kit Coleman, W. H. Wright, George McCullagh, R. A. Farquharson, Howard Webster
Toronto Star.....	Joseph Atkinson Sr., Harry Hindmarsh, John R. Bone, Matthew Halton, Ernest Hemingway, Wilfrid Eggleston, Morley Callaghan, Gregory Clark, Jimmy Frise
Toronto Telegram.....	John Ross Robertson, "Black Jack" Robinson, George McCullagh, C. O. Knowles, Margaret Aiken, John Bassett, B. T. Richardson
Welland-Port Colborne Tribune	
Windsor Star.....	W. F. Herman, R. M. Harrison, Hugh A. Graybiel, Richard A. Graybiel, W. L. Clark, John Marshall
Woodstock-Ingersoll Sentinel-Review	

MANITOBA—

Brandon Sun	
Flin Flon Miner, 1931.....	Miss L. A. Schell
Flin Flon Daily Reminder, 1946.....	T. W. Dobson
Portage la Prairie Daily Graphic	
Winnipeg Free Press.....	Sir Clifford Sifton, J. W. Dafoe, T. B. Robertson, E. Cora Hind, Grant Dexter, Max Freedman, Tom Kent
Winnipeg Tribune.....	W. E. Nichols, John Bird, F. S. Auger, Carlyle Allison

SASKATCHEWAN—

Moose Jaw Times-Herald.....	Walter Scott, Thomas Miller
Prince Albert Herald	
Regina Leader-Post.....	Walter Scott, W. F. Kerr, D. B. MacRae, D. B. Rogers
Saskatoon Star-Phoenix, 1902.....	Leonard Norman, W. F. Herman

ALBERTA—

Calgary <i>Albertan</i>	W. M. Davidson, G. Max Bell, A. M. Raymond
Calgary <i>Herald</i>	Lt.-Col. J. H. Woods, Chief Buffalo Child Long Lance, R. L. Sanburn
Edmonton <i>Journal</i> , 1903.....	J. W. Cunningham, Lt.-Col. J. H. Woods, John M. Imrie
Lethbridge <i>Herald</i> , 1905.....	Senator W. A. Buchanan
Medicine Hat <i>News</i>	

BRITISH COLUMBIA—

Kamloops <i>Daily Sentinel</i>	F. J. Deane
Kelowna <i>Courier</i> , 1904.....	R. H. Spedding
Kimberley <i>Daily Bulletin</i> , 1932.....	Frederick W. Slade
Nanaimo <i>Free Press</i>	
Nelson <i>News</i>	F. J. Deane
New Westminster <i>British Columbian</i>	Senator J. D. Taylor
Penticton <i>Herald</i> , 1906.....	W. J. Clement
Prince George <i>Citizen</i> , 1916	
Prince Rupert <i>News</i> , 1909	
Trail <i>Times</i>	
Vancouver <i>Sun</i>	Robert Cromie, Don Cromie, Jack Scott
Vancouver <i>Province</i>	Walter Cameron Nichol, M. E. Nichols, Ross Munro
Victoria <i>Colonist</i>	J. S. H. Matson, G. Max Bell, Seth Halton, Sandham Graves
Victoria <i>Times</i>	G. Max Bell, Bruce Hutchison, Stuart Keate

Some professional organizations in which those connected with the daily press participate are the Canadian Daily Newspaper Publishers' Association, Canadian Managing Editors' Conference, and the Ontario Provincial Dailies Association.

THE WEEKLY PRESS

Although modern social and publishing conditions have made the daily newspaper pre-eminent in Canadian journalism, weeklies continue to hold an important place. Their stronghold is the rural, village and small-town area. They are essentially community journals which concentrate attention on local happenings, leaving the presentation of national and international news, for the most part, to their big city contemporaries. Such country newspapers are produced by hard-working and versatile journalists whose occupational ancestors were the printer-editors of an earlier press age.

Reliable statistics for Canada's weekly newspapers are extremely difficult to obtain, but in 1954 there were nearly 1,000 weeklies with a total circulation of about 2,500,000. These numbers do not include week-end newspapers, which have recently made large circulation gains, but do include some advertising 'throwaways' and special-interest papers such as *Canadian High News*, not usually considered part of the general-appeal weekly press.

In 1957 there were 525 newspapers belonging to the Canadian Weekly Newspapers Association, a national body with headquarters in Toronto. The CWNA had its origin in the Canadian Press Association, setting up its own section within that body in 1908 and forming its own separate organization in 1919. It received legal incorporation in July 1944. Weekly newspapers in each province maintain provincial organizations as divisions of the parent association. The regional groups are autonomous. It is possible for a Canadian weekly to be a member of either the federal or provincial organizations without being a member of both.

NATIONAL WEEK-END NEWSPAPERS

National week-end newspapers in Canada do not enjoy the prominence of their American counterparts. *Canadian Advertising* (Nov.-Dec. 1957) lists only 22 such publications and few of these have both national and family appeal. Included in even this small

number of newspapers are such special-interest offerings as the *Canadian Register*, such provincial-appeal papers as the *Newfoundland Sunday Herald*, and such non-family tabloids as *Flash* and *Allo Police*. The most successful week-end newspapers are *Weekend*, a tabloid-size insert which, in addition to being issued separately as the *Standard*, appeared in the Saturday edition of 27 Canadian dailies in early 1958, and the *Star Weekly* which has news-stand, supermarket and mail distribution. On Mar. 31, 1957, the three-month average circulation of *Weekend* was reported to be 1,491,000 and the *Star Weekly* had a circulation of 946,000. The *Weekly Globe and Mail* has about a quarter of a million buyers. The *Hebdo-Revue* is a French-language supplement inserted in several Canadian newspapers; it has also provided a magazine section for one United States French-language newspaper, *L'Action*, of Manchester, N.H. Publications described as week-end newspapers, because of their pictorial and feature-article content, resemble magazines more closely than they do daily and weekly newspapers. No week-end newspapers are published on Sundays, although the daily, the *Victoria Colonist*, has a Sunday morning instead of a Monday morning edition. In 1957 the *Toronto Telegram* began to publish a week-end paper on Sundays but discontinued it after a few months.

FARM PRESS

There are about 60 newspapers and magazines in English and French to serve Canada's large farm population. Many of these have enjoyed a longevity unknown to publications with a less sustained and widespread appeal. Among the most prominent (together with founding dates) are the following: *Family Herald* (1870); *Farm and Ranch Review* (1905); *Farmer's Advocate and Canadian Countryman* (1866); *Farmer's Magazine* (1909); *The Country Guide* (1882); *Free Press Weekly Prairie Farmer* (1872); *The Western Producer* (1923); *Le Bulletin des Agriculteurs* (1918); *La Ferme* (1939); *La Terre de Chez Nous* (1929).

SPECIAL-INTEREST PAPERS

In addition to the above-mentioned publications and to magazines, there are published in Canada a number of papers serving other special interests. About a dozen labour papers claim circulation of approximately a quarter of a million copies, the largest being *Le Travail* (1925), *The B. C. Lumber Worker*, *Canadian Transport* (1908), and *The Guardian* (1952). *Canadian Advertising* lists five political publications, which together have about 50,000 subscribers. The *C.C.F. News* (1936), *C.C.F. News (Ontario)*, *The Conservative Clarion* (1956), *The Commonwealth*, and *Canadian Tribune*. Thirty-one religious publications claim about a million subscribers, the circulation leaders being *Les Annales de Notre-Dame du Cap* (1892), *The United Church Observer* (1829), *The Presbyterian Record* (1876), *Messenger Canadien* (1892), *The Missionary Monthly* (1926), *The Living Message* (1922), and *The Canadian Baptist* (1854).

MAGAZINES

There has recently grown up in Canada a flourishing magazine press; in 1958 the combined circulation of the nation's magazines exceeded 11,000,000. Associations concerned with magazine production include the Canadian Industrial Editors' Association and Periodical Press Association with its affiliates, the Agricultural Press Association of Canada, Business Newspapers' Association of Canada, Magazine Publishers' Association of Canada and Magazine Advertising Bureau of Canada.

Consumer or Popular Magazines.—The existence of the Canadian-produced consumer or popular magazine is often precarious. Many publishing difficulties come from the omnipresent competition from the United States because American consumer or popular publications appeal to the readers in Canada just as strongly as they do to American subscribers. A common language, a similarity of customs and tastes and a tariff-free border so far as publications are concerned make impossible the kind of protection that other nations enjoy. The result is that, as the Periodical Press Association pointed out to the Massey Commission,* "Canada . . . is the only country of any size in the world

* Vincent Massey et al, *Report: Royal Commission on National Development in the Arts, Letters and Sciences*, Queen's Printer, Ottawa, 1951, p. 64.

whose people read more foreign periodicals than they do periodicals published in their own land, local newspapers excluded". What makes it difficult for Canadian magazines to compete with the American product is that the United States publishers are able to regard the Canadian market as an 'extra' market, a field to be exploited with little additional cost after a huge domestic market has paid the heavy basic expenses of publication. Besides this, the inclusion of a Canadian section in the American magazines has made competition from south of the border even more intense.

Such American competition may be one of the reasons that only a few Canadian magazines such as *Saturday Night* and *Maclean's* (which was at first called *The Busy Man's Magazine*) have survived from the nineteenth century. The strongest twentieth-century newcomers include the *Canadian Home Journal* (1904—combined with *Chatelaine* under the title of the latter in 1958), *La Revue Populaire* (1908), *Ma Paroisse* (1909), *La Revue Moderne* (1919), *Canadian Forum* (1920), *Montrealer* (1926), *Mayfair* (1927), *La Voix Nationale* (1927), *Canadian Homes and Gardens* (1925), *Chatelaine* (1928), *Canadian Geographical Journal* (Lawrence Burpee, 1930), *Atlantic Guardian* (Ewart Young, 1945), *Liberty* (1932), *Canadian Art* (1953), *Canadian Commentator* (Marcus Long, 1957).

Trade and Business Magazines.—Stronger than most of the consumer magazines, at least in terms of continuity and a steady subscription list, are Canadian trade and business publications. This class of periodical is not so subject to American competition as are the mass-appeal magazines. In 1958 more than 400 trade papers, with more than a million subscribers in the aggregate, served accountants, bankers, builders, butchers, carpenters, civil engineers, dairymen, distillers, exporters, florists, grocers, hairdressers, implement dealers, jewellers, journalists, loggers, machinists, nurses, optometrists, policemen, real estate agents, stamp collectors, tobacconists, undertakers, veterinarians, woodworkers, and a great many other occupations and professions.

Cultural Publications.—The difficulties of Canadian cultural publications are the difficulties of cultural publications everywhere. Academic journals draw strength from the universities and learned societies that support them, but the small, non-institutional literary magazines which devote themselves exclusively to *belles lettres* are usually *tour de force* publications that survive only so long as their sponsors and editors (who are often the same persons) can withstand the constant discouragement of low revenues, heavy expenses and continuous, tiring labour.

Among academic publications *Queen's Quarterly* has come down from an earlier press period and still flourishes. Also still alive, but younger, are *La Revue de l'Université de Laval* (from 1918 to 1946 named *Le Canada français*), *Canadian Historical Review* (1920, W. S. Wallace), *Dalhousie Review* (1921, H. L. Stewart), *University of Toronto Quarterly* (1931), *Revue de l'Université d'Ottawa* (1931, Georges Simard, OMI), *Canadian Journal of Economics and Political Science* (1935, V. W. Bladen), *British Columbia Historical Quarterly* (1937, Dr. Kaye Lamb), *Mediaeval Studies* (1939), *Culture* (1940, Association for Research into Religious and Profane Sciences), and *Phoenix* (1946, Classical Association of Canada). Two twentieth-century publications which have not survived are the *McGill University Magazine* (1901-20, called *University Magazine* until 1906), and the *Manitoba Arts Review* (1938-45).

Cultural non-academic publications that began and ended their careers during the fourth press period were *Acadie* (1930, Theodore Goodridge Roberts), *Crucible* (1932-43), *Contemporary Verse* (1941-52, Alan Crawley), *First Statement* (1942-45), *Preview* (1942-45), *Direction* (1943-45), *Northern Review* (1945-56, John Sutherland), and *Here and Now* (1947-49). Magazines which were still being issued in 1958 included the *Canadian Poetry Magazine* (1936, Canadian Authors' Association, V. B. Rhodenizer), *Les Cahiers des Dix* (1936, Aegidius Fauteux), *Fiddlehead* (1945, Bliss Carman Society of Fredericton, Fred Cogswell), *Contact* (1951), *La Nouvelle Revue Canadienne* (1951, Pierre Daviault, René Garneau, Jean Pierre Houle, Guy Sylvestre), *Tamarack Review* (1956, Kildare Dobbs, Millar MacLure, Ivon Owen, William Toye, Robert Weaver, Anne Wilkinson), and *Delta* (1957, Louis Dudek).

FOREIGN LANGUAGE PRESS*

In February 1958 there were 141 ethnic group publications in Canada. Fifteen of these were written entirely in English and five partly in English. The remainder employed neither of Canada's two official languages. Most of the ethnic group press consisted of weekly, semi-monthly and monthly journals but there were some semi-weeklies, tri-weeklies, bi-monthlies, quarterlies and annuals as well. Four Chinese and two Jewish papers were dailies. Many of the ethnic journals were religious publications. Canada's foreign language groups were represented as follows:

Byelorussian.....	1	Jewish.....	12
Chinese.....	6	Latvian.....	2
Croat.....	1	Lithuanian.....	5
Czech.....	4	Maltese.....	1
Dutch.....	11	Norwegian.....	3
Estonian.....	2	Polish.....	4
Finnish.....	5	Russian.....	3
German.....	19	Serbian.....	3
Greek.....	1	Slovak.....	3
Hungarian.....	5	Slovenian.....	2
Icelandic.....	4	Swedish.....	2
Italian.....	5	Swiss (English).....	1
Japanese.....	2	Ukrainian.....	34

THE ADEQUACY OF THE MODERN PRESS OF CANADA

A question that may well be asked concerning the modern press of Canada, as it is asked of the newspapers of other civilized nations, is this: how well is it reflecting and reporting the contemporary world. The enormously improved news-gathering devices of mid-century journalism are, of course, making a vast difference in both world and national news coverage. But in one respect today's journals are perhaps doing a less effective job of recording those aspects of life of concern to the reader than did the newspapers of 1850 in relation to its subscribers. That is not to say that the modern editor and reporter are less able or less conscientious than their nineteenth-century predecessors. Quite the contrary. It is just that today's man of the press has an incredibly harder task—the society he has to describe and interpret has become infinitely more complex than the simple, uncomplicated world of Howe and Mackenzie and Parent.

It is extremely difficult for the modern newspaper reporter or editor to be so well grounded in all the areas of human activity that he can report and interpret every field with equal skill. Ideally, the publisher should hire as reporters and editors specialists, each of whom is competent in his own particular field—but that is an economic impossibility, newspaper costs being what they are today. Therefore the publisher must content himself with hiring 'generalists'—reporters whose knowledge is wide rather than deep. Although it is possible that eventually such inventions as the facsimile newspaper will so drastically reduce other press costs that the publisher may be able to afford the luxury of a large staff of specialists, the present hope of an improved press for Canada seems to lie with those men of the press who are constantly striving to extend and improve their knowledge of the world about them.

* Information from *List of Ethnic Group Publications in Canada*, by Dr. V. J. Kay, Department of Citizenship and Immigration, Ottawa.

CHAPTER XX.—DOMESTIC TRADE AND PRICES

CONSPECTUS

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NOTE.—The interpretation of the symbols used in the tables throughout the Year Book will be found facing p. 1 of this volume.

PART I.—THE MOVEMENT AND MARKETING OF COMMODITIES

Domestic trade is broad and complicated; it encompasses all values added to commodities traded, provincially and interprovincially, by agencies and services connected with the storage, distribution and sale of goods, such as railways, steamships, warehouses, wholesale and retail stores, financial institutions, etc. Taken in a wide sense, it embraces various professional and personal services including amusement services, such as theatres and sports. Only certain phases of this broad field are covered here and, wherever possible, cross references are given to related material appearing in other Chapters. The arrangement of material in a volume such as the Year Book is governed by the necessity of interpretation from various angles. The index will be found useful in this respect.

Section 1.—Merchandising and Service Establishments*

Complete coverage of the business of wholesale and retail trades and of service establishments is attempted only as part of the decennial census. The first such detailed survey was taken in connection with the 1931 Census and related to business transacted

* Prepared in the Merchandising and Services Section of the Industry and Merchandising Division, Dominion Bureau of Statistics.

during the calendar year 1930. Similar detailed records were again secured with the 1941 and 1951 Censuses. The results of the 1930 and 1941 Censuses of Merchandising and Service Establishments are contained in Vols. X and XI of the Census reports for those years and the results of the 1951 Census of Distribution in Vols. VII and VIII of the 1951 Census reports. Summary data for 1951 are given in the 1955 Year Book, pp. 953-977.

The information collected at the census is supplemented in intercensal years by monthly, quarterly and annual surveys on the more important phases of the retail, wholesale and service trades—sample surveys for some businesses and full coverage for others. The 1951 Census formed a new base for such surveys and certain improvements have been implemented for continuance during the 1951-61 intercensal period.

Current information available on the more important phases of the distributive trades is given in the following Subsections. Estimates for the years prior to 1951 have been revised in accordance with the census base.

Subsection 1.—Wholesale Trade

Wholesale Sales.—Estimated sales of wholesalers expanded from \$5,744,355,000 in 1951 to \$7,744,103,000 in 1957. These figures include only wholesalers proper, i.e., they exclude agents and brokers and manufacturers' sales branches. Sales estimates are subject to revision and have not been adjusted for price changes.

1.—Wholesale Sales, by Kind of Business, 1954-57

NOTE.—Includes only wholesalers proper, i.e., firms performing the function of buying merchandise on their own account for resale.

Kind of Business	1954	1955	1956	1957
	\$'000	\$'000	\$'000	\$'000
Fresh fruits and vegetables.....	211,145	217,540	233,446	231,804
Groceries and food specialties.....	1,036,220	1,139,659	1,246,104	1,355,447
Meat and dairy products.....	171,108	164,192	173,443	172,256
Clothing and furnishings.....	80,944	86,469	89,531	86,418
Footwear.....	26,770	29,064	30,691	31,175
Other textile and clothing accessories.....	174,179	183,598	199,258	203,139
Drugs and drug sundries.....	153,124	165,974	178,409	189,223
Household electrical appliances.....	150,136	167,894	168,601	165,650
Farm machinery.....	52,084	60,590	72,726	60,068
Coal and coke.....	179,007	178,408	202,900	195,663
Hardware.....	260,809	283,522	313,417	307,351
Construction materials and supplies, including lumber.....	546,698	655,254	709,996	682,710
Industrial and transportation equipment and supplies.....	462,233	571,918	764,789	738,559
Commercial, institutional and service equipment and supplies.....	89,240	99,017	107,887	109,898
Automotive parts and accessories.....	262,035	352,323	386,436	394,313
Newsprint, paper and paper products.....	249,481	264,171	292,400	297,791
Tobacco, confectionery and soft drinks.....	498,537	509,840	562,413	605,083
Other.....	1,458,815	1,620,077	1,987,906	1,917,555
Totals, All Trades.....	6,062,566	6,749,510	7,720,353	7,744,103

Operating Results of Wholesalers.—A biennial survey of the operating results of wholesalers for certain trades shows operating expenses and profits in ratio to net sales. Detailed information for individual trades is given in DBS Bulletins.

2.—Operating Results of Selected Wholesale Trades, 1957

(Percentage of Net Sales)

Kind of Business	Gross Profit	Selling Expense	Warehouse and Delivery Expense	Administrative and General Expense	Net Operating Profit	Net Non-trading Income	Net Profit before Income Tax
Grocery.....	6.84	1.11	2.15	3.12	0.46	0.59	1.05
Fruits and vegetables.....	12.14	1.85	5.27	4.17	0.85	0.32	1.17
Tobacco and confectionery.....	6.73	1.89	1.67	2.82	0.35	0.22	0.57
Dry goods.....	16.04	5.26	3.21	6.43	1.14	0.57	1.71
Piece goods.....	17.21	4.97	2.53	8.04	1.67	0.51	2.18
Footwear.....	13.60	3.35	2.29	6.50	1.46	0.76	2.22
Automotive parts and accessories.....	25.36	7.20	5.07	9.83	3.26	0.65	3.91
Hardware.....	20.05	4.82	3.54	8.36	3.33	0.10	3.43
Plumbing and heating supplies.....	16.97	3.84	3.02	7.18	2.93	—	2.93
Drug.....	11.79	1.75	3.31	5.28	1.45	0.56	2.01
Household appliances and electrical supplies.....	18.93	5.10	2.01	8.36	3.46	0.15	3.61

Subsection 2.—Retail Trade

The trend of retail trade is one of the best general indicators of the economic condition of the country. It is through retail stores that most goods are ultimately sold and such sales reflect the financial strength of the consumer except in times of short supply. The estimated value of retail sales increased nearly five and a half times during the 1930-57 period. These estimates, not adjusted for price changes, are shown by province in Table 3 and by kind of business in Table 4.

3.—Retail Trade, by Province, 1930 and 1941-57

NOTE.—Figures for 1931-40 are given in the 1957-58 Year Book, p. 938.

Year	Atlantic Provinces ¹	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia ²	Canada ³
	\$'000,000	\$'000,000	\$'000,000	\$'000,000	\$'000,000	\$'000,000	\$'000,000	\$'000,000
1930.....	197	646	1,091	188	188	175	251	2,736
1941.....	279	820	1,388	193	189	228	318	3,415
1942.....	301	876	1,447	206	201	243	346	3,619
1943.....	319	913	1,488	220	219	266	362	3,786
1944.....	351	976	1,574	243	249	296	404	4,093
1945.....	387	1,081	1,774	269	279	329	455	4,573
1946.....	491	1,342	2,265	338	341	416	593	5,787
1947.....	564	1,621	2,721	407	410	504	737	6,963
1948.....	607	1,792	3,067	466	473	611	818	7,835
1949.....	734	1,872	3,294	523	538	697	874	8,532
1950.....	822	2,183	3,715	567	571	777	982	9,617
1951.....	899	2,443	4,130	610	659	854	1,100	10,693
1952.....	982	2,635	4,383	651	764	939	1,177	11,532
1953.....	1,018	2,756	4,616	677	845	987	1,228	12,128
1954.....	1,025	2,798	4,634	637	758	964	1,249	12,066
1955.....	1,127	3,006	5,115	669	748	1,035	1,412	13,112
1956.....	1,211	3,322	5,499	700	812	1,159	1,504	14,298
1957.....	1,225	3,521	5,663	726	855	1,211	1,616	14,817

¹ Newfoundland included from 1949.² Includes the Yukon and Northwest Territories.

are not the exact addition of the components because of rounding of the figures.

³ Totals

4.—Retail Trade, by Kind of Business, 1954-57

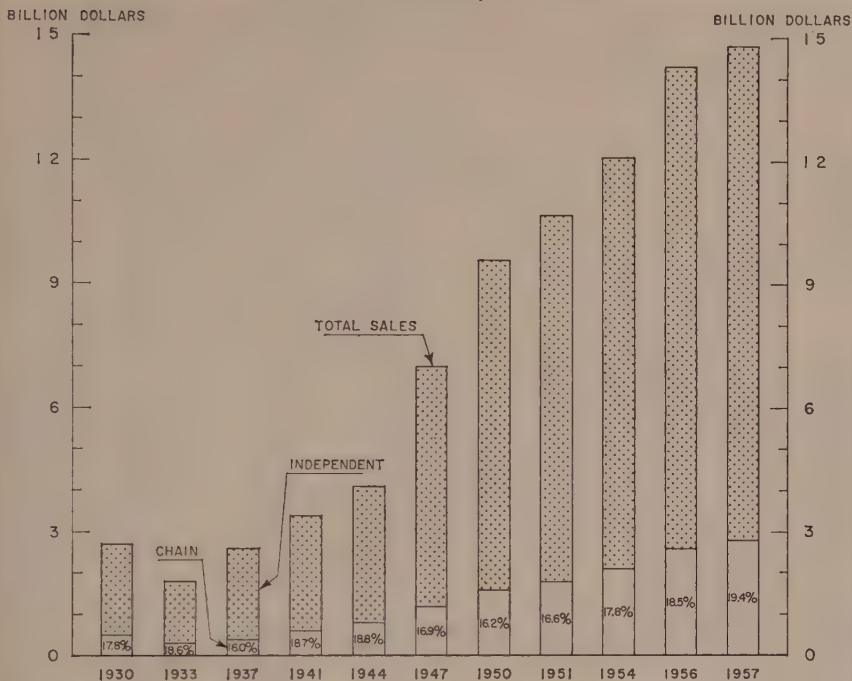
Kind of Business	1954	1955	1956	1957
	\$'000,000	\$'000,000	\$'000,000	\$'000,000
Grocery and combination stores.....	2,279	2,430	2,639	2,885
Other food and beverage stores.....	924	950	1,044	1,083
General stores.....	515	530	568	589
Department stores.....	1,062	1,150	1,242	1,291
Variety stores.....	234	250	274	295
Motor vehicle dealers.....	2,029	2,370	2,542	2,472
Garages and filling stations.....	632	718	822	933
Men's clothing stores.....	207	214	230	235
Family clothing stores.....	191	200	215	217
Women's clothing stores.....	221	225	247	258
Shoe stores.....	121	123	129	136
Hardware stores.....	247	256	291	304
Lumber and building material dealers.....	406	451	483	457
Furniture, appliance and radio dealers.....	486	541	584	571
Restaurants.....	453	468	508	524
Fuel dealers.....	250	268	312	322
Drug stores.....	282	300	329	355
Jewellery stores.....	116	124	130	131
Miscellaneous.....	1,412	1,545	1,706	1,758
Totals, All Trades.....	12,066	13,112	14,298	14,817

Retail Chain Stores.—Retail chains are defined as companies operating four or more retail outlets in the same or related kinds of business. A consistent rise in sales has been evident since statistics were first compiled on chain store operations in 1930.

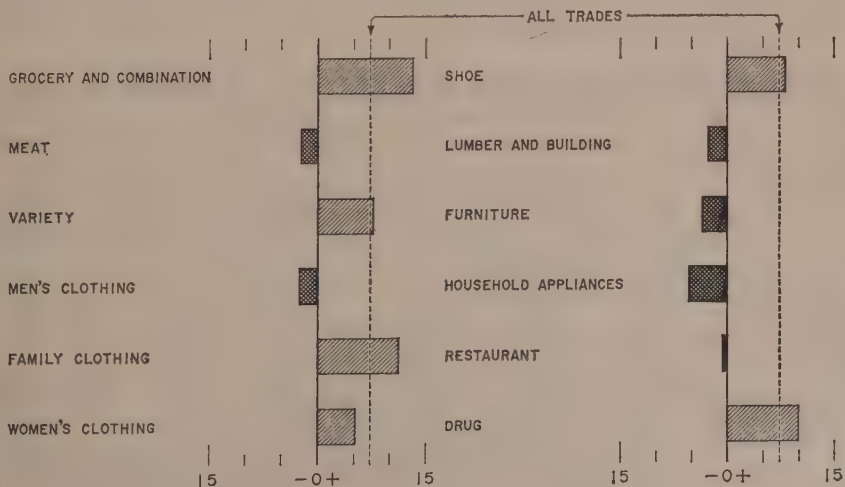
5.—Retail Chain Store Statistics, 1930 and 1941-57

Year	Stores	Net Retail Sales	Salaries and Wages Paid to Store Employees	Stocks on Hand End of Year		Accounts Outstanding End of Year
				Stores	Warehouses	
	Av. No.	\$'000	\$'000	\$'000	\$'000	\$'000
1930.....	8,097	487,336	50,405	60,457	..	..
1941.....	7,622	639,210	57,777	68,619	20,976	38,376
1942.....	7,010	687,447	57,654	66,940	22,633	..
1943.....	6,780	703,950	58,804	67,628	22,602	15,527
1944.....	6,560	769,643	63,300	66,944	21,855	15,093
1945.....	6,580	876,209	68,196	68,247	29,013	16,368
1946.....	6,559	1,014,847	77,474	85,345	37,436	19,643
1947.....	6,716	1,177,323	91,266	105,040	43,546	31,492
1948.....	6,821	1,335,735	107,450	119,132	46,330	40,378
1949.....	6,839	1,420,081	115,903	123,696	46,755	50,001
1950.....	7,155	1,559,693	129,334	159,083	60,501	65,000
1951.....	7,846	1,775,744	158,599	186,562	60,490	53,816
1952.....	7,766	1,924,873	164,642	172,886	55,215	77,475
1953.....	7,835	2,048,228	171,167	179,704	52,096	91,538
1954.....	8,136	2,146,635	181,509	191,049	57,814	102,747
1955.....	8,274	2,353,955	199,611	205,833	63,120	127,362
1956.....	8,559	2,647,055	221,136	232,392	72,133	143,357
1957.....	8,822	2,841,569	242,979	248,284	78,521	148,506

RETAIL CHAIN STORE SALES IN PROPORTION TO TOTAL SALES, SELECTED YEARS, 1930-57



PERCENTAGE CHANGE IN RETAIL CHAIN STORE SALES, 1957 OVER 1956



6.—Retail Chain Store Sales, by Province and by Kind of Business, 1954-57

Province and Kind of Business	1954	1955	1956	1957
	\$'000	\$'000	\$'000	\$'000
Province				
Newfoundland.....	13,865	12,982	15,267	24,079
Maritime Provinces.....	141,236	155,728	169,946	179,396
Quebec.....	447,238	488,374	540,628	576,716
Ontario.....	999,571	1,096,030	1,230,388	1,335,056
Manitoba.....	86,523	94,235	100,591	112,126
Saskatchewan.....	96,280	102,129	111,353	118,935
Alberta.....	146,932	160,909	182,111	197,763
British Columbia.....	209,202	237,734	289,846	289,463
Yukon and Northwest Territories.....	5,788	5,835	6,925	8,034
Canada.....	2,146,635	2,353,955	2,647,055	2,841,569
Kind of Business				
Foods and Beverages¹.....	1,353,278	1,486,644	1,685,394	1,835,648
Combination grocery and meat stores.....	870,580	970,793	1,104,060	1,249,288
Restaurants.....	33,900	34,602	36,374	36,194
Alcoholic beverage stores.....	432,714	465,772	527,952	530,143
General Merchandise (excl. department stores)¹.....	261,495	280,871	313,976	338,645
General stores.....	36,560	37,450	41,144	42,774
Variety stores.....	194,248	207,831	229,307	247,223
Automotive.....	35,014	39,923	42,043	46,299
Apparel and Accessories¹.....	162,239	175,077	190,674	202,078
Men's and boys' clothing and furnishings.....	25,350	27,037	28,866	28,159
Women's clothing stores.....	54,843	61,897	67,269	70,707
Family clothing stores.....	32,069	33,418	36,347	40,459
Shoes.....	45,384	48,054	53,433	57,822
Building Materials and Hardware.....	104,982	114,963	141,316	140,534
Furniture and Household Appliances.....	99,536	120,515	137,059	130,727
Other Retail Stores¹.....	130,090	135,962	136,592	145,638
Drug stores.....	35,908	36,660	41,299	45,437
Jewellery stores.....	38,954	43,016	46,301	45,205

¹ Includes other kinds of business not shown separately.

Operating Results of Retail Chain Stores.—A survey of the operating results of retail chain stores is carried out every second year, alternated with a similar study of independent retailers. In 1957, six of the ten selected trades registered smaller ratios of net operating profit than those obtained in 1955.

7.—Operating Results of Retail Chain Stores for Selected Kinds of Business, 1957

(Percentage of Net Sales)

Kind of Business	Gross Profit	Salaries and Wages	Occupancy Expenses ¹	Total Operating Expenses ²	Net Operating Profit	Net Non-trading Income	Net Profit before Income Tax
Grocery.....	15.46	8.49	1.56	14.38	1.08	0.37	1.45
Combination grocery and meat.....	17.44	7.32	1.84	13.80	3.64	0.04	3.68
Meat markets.....	20.17	11.26	1.21	13.48	1.69	0.19	1.88
Men's clothing.....	32.13	15.60	4.86	30.12	2.01	0.42	2.43
Women's clothing.....	34.38	14.97	6.78	30.85	3.53	1.03	4.56
Family clothing.....	32.88	16.57	5.27	30.79	2.09	0.58	2.67
Shoe.....	33.95	16.51	6.72	29.08	4.87	0.06 ³	4.81
Variety.....	38.56	18.16	5.34	29.55	9.01	0.62	9.36
Drug.....	34.36	18.76	5.03	31.36	3.00	1.07	4.07
Furniture.....	36.69	16.81	4.43	41.46	4.77 ⁴	13.48	8.71

¹ Includes taxes and insurance, light, heat and power, repairs, maintenance, depreciation (except on delivery equipment) and rentals on rented premises. ² Includes salaries and wages and occupancy expenses. ³ Net non-trading expense. ⁴ Net operating loss.

Operating Results of Independent Retail Stores.—Figures for 1956 for twenty kinds of business are contained in Table 8. Separate ratios are shown for unincorporated and incorporated businesses. Salaries of proprietors of unincorporated stores are included in net profit while salaries of executives of incorporated stores form part of the expense item of salaries and wages. This study is made biennially.

8.—Operating Ratios of Independent Retail Stores, by Kind of Business, 1956

(Percentage of Net Sales)

Kind of Business	Cost of Goods Sold	Gross Profit	Salaries and Wages ¹	Occupancy Expenses ²	Total Operating Expenses ³	Net Profit before Income Tax ⁴
Unincorporated						
Grocery.....	85.24	14.76	2.55	3.56	8.67	6.09
Combination.....	84.60	15.40	4.38	3.70	10.65	4.75
Meat.....	80.39	19.61	5.47	3.48	12.73	6.88
Confectionery.....	81.02	18.98	3.20	5.82	11.01	7.97
Fruits and vegetables.....	80.61	19.39	3.94	4.69	12.07	7.32
Men's clothing.....	71.83	28.17	6.20	5.92	17.31	10.86
Family clothing.....	73.46	26.54	7.14	5.50	17.52	9.02
Women's clothing.....	71.71	28.29	7.78	6.49	19.56	8.73
Family shoe.....	70.57	29.43	7.46	6.42	18.18	11.25
General stores.....	84.84	15.16	3.28	3.07	9.00	6.16
Furniture.....	73.92	26.08	5.75	5.40	17.79	8.29
Household appliances, radio and television sets.....	74.38	25.62	7.59	4.42	18.27	7.35
Hardware.....	74.21	25.79	7.26	4.72	16.43	9.36
Restaurants.....	59.23	40.77	16.98	10.99	32.14	8.63
Fuel dealers.....	78.88	21.12	3.04	2.48	15.69	5.43
Drug.....	69.74	30.26	8.62	5.19	18.14	12.12
Jewellery.....	59.17	40.83	9.47	8.34	24.85	15.98
Tobacco.....	81.31	18.69	3.72	5.29	10.78	7.91
Filling stations.....	79.24	20.76	6.35	4.88	13.79	6.97
Garages.....	66.44	33.56	12.88	6.17	23.29	10.27
Incorporated						
Men's clothing.....	69.24	30.76	14.90	5.85	27.14	3.62
Family clothing.....	69.68	30.32	15.71	4.78	27.05	3.27
Women's clothing.....	68.22	31.78	15.85	7.02	28.61	3.17
Family shoe.....	66.51	33.49	18.13	6.55	30.40	3.09
Hardware.....	73.08	26.92	14.38	4.17	23.84	3.08
Furniture.....	72.05	27.95	13.33	4.94	25.58	2.37
Household appliances, radio and television sets.....	74.50	25.50	12.75	3.64	23.22	2.28
Fuel dealers.....	77.87	22.13	6.96	2.18	19.75	2.38
Drug.....	67.24	32.76	18.37	5.13	28.30	4.46
Jewellery.....	55.77	44.23	21.74	7.68	39.13	5.10

¹ Excludes delivery and, for unincorporated stores, also excludes proprietors' salaries.

² Includes taxes

and insurance, light, heat and power, repairs, maintenance, depreciation (except on delivery equipment) and rentals on rented premises.

³ Includes salaries and wages and occupancy expenses.

⁴ Includes, for unincorporated stores, proprietors' salaries or withdrawals.

Motor Vehicle Sales.—Fewer new motor vehicles were sold in 1957 than in 1956, passenger car sales being down 6.4 p.c. and trucks and buses 16.8 p.c. The over-all value of vehicles sold was 8.3 p.c. lower than the record level of the previous year.

9.—Retail Sales of New Motor Vehicles, 1948-57

Year	Passenger Cars		Trucks and Buses		Totals	
	No.	\$	No.	\$	No.	\$
1948.....	145,655	282,903,958	75,645	156,313,030	221,300	439,216,988
1949 ¹	202,318	412,297,863	84,023	176,426,822	286,341	588,724,685
1950.....	324,093	661,673,944	104,792	223,995,095	429,695	885,669,039
1951.....	275,686	683,182,846	109,962	266,976,665	385,648	950,159,511
1952.....	292,095	725,168,000 ¹	108,682	278,495,000 ¹	400,777	1,003,663,000 ¹

¹ Newfoundland included from 1949.

9.—Retail Sales of New Motor Vehicles, 1948-57—concluded

Year	Passenger Cars		Trucks and Buses		Totals	
	No.	\$	No.	\$	No.	\$
1953.....	359,172	899,726,000	103,354	262,745,000	462,526	1,162,471,000
1954.....	310,546	797,554,000	72,082	191,964,000	382,628	989,518,000
1955.....	386,962	1,023,351,000	78,716	232,539,000	465,678	1,255,890,000
1956.....	408,233	1,128,640,000	91,688	326,735,000	499,921	1,455,375,000
1957.....	382,023	1,087,620,000	76,276	281,311,000	458,299	1,368,931,000

Farm Implement Sales.—The value of farm implements sold in Canada in 1957 was 12.6 p.c. below the 1956 level. Though increases were shown in some types of equipment, major declines were recorded in sales of harvesting and haying machinery, spraying and dusting equipment, wagons and sleighs, and tractors and engines. Sales by major groups and by provinces are given in Tables 10 and 11.

10.—Sales of Farm Implements and Equipment, by Major Group, 1953-57

(Values at wholesale prices)

Major Group	1953	1954	1955	1956	1957	Percentage Change 1956-57
	\$'000	\$'000	\$'000	\$'000	\$'000	
Tractors and engines.....	85,261	55,168	58,760	63,262	56,651	-10.4
Ploughs.....	16,870	10,201	8,225	8,019	8,952	+11.6
Tilling, cultivating and weeding machinery.....	10,696	7,644	7,016	7,071	7,845	+11.0
Planting, seeding and fertilizing machinery.....	8,131	5,707	5,341	6,094	6,526	+7.1
Haying machinery.....	19,787	17,730	19,820	27,245	23,314	-14.4
Harvesting machinery.....	69,580	26,195	27,564	34,753	23,846	-31.4
Machines for preparing crops for market or for use	7,716	4,582	4,933	4,768	5,534	+16.1
Farm wagons, wagon trucks and sleighs.....	2,243	1,643	1,433	1,805	1,524	-15.5
Barn equipment.....	2,281	2,524	2,671	2,637	2,863	+8.6
Dairy machinery and equipment.....	3,567	3,414	3,953	4,787	5,468	+14.2
Spraying and dusting equipment.....	1,902	1,851	1,996	1,770	1,269	-28.3
Miscellaneous farm equipment.....	10,016	10,044	11,412	8,556	5,518	-35.5
Totals.....	238,050	146,703	153,124	170,767	149,310	-12.6

11.—Sales of Farm Implements and Equipment, by Province, 1956 and 1957

(Values at wholesale prices)

Province or Region	1956		1957		Percentage Change 1956-57
	Amount	P.C. of Total	Amount	P.C. of Total	
	\$		\$		
Atlantic Provinces.....	7,424,057	4.4	5,295,899	3.5	-28.7
Quebec.....	23,325,374	13.6	23,841,645	16.0	+2.2
Ontario.....	42,902,342	25.1	38,581,835	25.8	-10.1
Manitoba.....	18,588,098	10.9	14,713,559	9.9	-20.8
Saskatchewan.....	40,748,641	23.9	32,137,391	21.5	-21.1
Alberta.....	32,686,198	19.1	30,934,663	20.7	-5.4
British Columbia.....	5,092,745	3.0	3,804,730	2.6	-25.3
Totals.....	170,767,455	100.0	149,309,722	100.0	-12.6

Sales Financing.—Instalment financing undertaken by sales finance companies declined in 1957 as compared with 1956 in both the consumer and commercial and industrial sectors, mainly as a result of lower sales of new passenger and commercial vehicles. On the other hand, balances outstanding at the end of 1957 were the highest on record.

12.—Retail Instalment Paper Purchased and Balances Outstanding, by Province and by Class of Goods, 1954-57

(Millions of Dollars)

Item	Paper Purchased				Balances Outstanding Dec. 31—			
	1954	1955	1956	1957	1954	1955	1956	1957
Province								
Atlantic Provinces.....	67	86	98	83	54	68	81	76
Quebec.....	182	225	298	296	145	187	248	263
Ontario.....	327	404	500	454	258	317	417	416
Manitoba.....	31	34	44	51	27	27	37	46
Saskatchewan.....	36	32	43	48	33	30	35	39
Alberta.....	85	103	138	139	76	89	115	123
British Columbia ¹	66	93	127	120	54	73	102	104
Totals, Retail Financing.....	794	977	1,248	1,191	647	791	1,035	1,067
Class of Goods								
Consumer Goods.....	620	759	925	900	483	599	756	779
New passenger cars.....	231	307	409	385	193	264	364	
Used passenger cars.....	269	297	387	344	195	214	249	635
Radio and television sets.....	43	59	58		35	47	47	
Household appliances.....	44	58	58		36	45	47	
Furniture.....	11	15	21	171	9	12	17	144
Other.....	22	23	42		15	17	32	
Commercial and Industrial.....	174	218	323	291	164	192	279	288
New commercial vehicles.....	61	73	112	95	63	67	98	
Used commercial vehicles.....	50	50	52	53	41	39	40	135
Other.....	63	95	159	143	60	86	141	153

¹ Includes the Yukon and Northwest Territories.

13.—Sales and Financing of New Motor Vehicles (Passenger and Commercial), 1948-57

Year	Sold	Financed	P.C. of Total Sales Financed		Average Financed Value
			Number	Value	
	No.	No.	p.c.	p.c.	\$
1948.....	221,300	51,867	23.4	16.8	1,423
1949 ¹	286,341	81,502	28.5	19.6	1,417
1950.....	429,695	135,304	31.5	21.6	1,415
1951.....	385,648	126,255	32.7	20.1	1,514
1952.....	400,777	172,587	43.1	29.2	1,695
1953.....	462,526	189,052	40.9	29.4	1,810
1954.....	382,628	154,104	40.3	29.5	1,897
1955.....	465,678	185,127	39.8	29.9	2,031
1956.....	499,921 ¹	224,905	45.0	35.8	2,316
1957.....	458,299	201,020	43.9	35.1	2,388

¹ Newfoundland included from 1949.

Retail Credit.—Estimated credit granted by retail stores, most of which can be considered as consumer credit, reached a high of \$5,215,000,000 during 1957. Accounts outstanding at Dec. 31, 1957 (i.e., the amount remaining on the books of retailers) exceeded \$1,000,000,000 for the first time. This figure does not, however, give the complete picture of retail credit outstanding, since some instalment credit extended by retailers is sold to sales finance companies.

14.—Retail Credit 1952-57, and by Quarter and Kind of Business, 1957

Period and Kind of Business	Sales				Accounts Receivable (at end of period)		
	Cash	Instalment	Charge	Total	Instalment	Charge	Total
	\$'000,000	\$'000,000	\$'000,000	\$'000,000	\$'000,000	\$'000,000	\$'000,000
1952.....	7,418.4	1,421.5	2,692.2	11,532.1	246.2	451.3	697.5
1953.....	7,808.2	1,585.5	2,734.2	12,127.9	287.8	483.6	771.4
1954.....	7,887.9	1,431.5	2,746.4	12,065.8	326.6	492.7	819.3
1955.....	8,348.3	1,705.6	3,058.0	13,111.9	381.8	542.8	924.6
1956.....	9,147.4	1,855.0	3,295.1	14,297.5	414.9	566.6	981.5
1957.....	9,439.3	1,854.8	3,360.2	14,654.3	486.3	529.4	1,015.7
1957							
January-March.....	2,065.6	404.0	741.8	3,211.4	428.6	481.9	910.5
April-June.....	2,453.8	527.5	856.7	3,838.0	438.1	521.3	959.4
July-September.....	2,336.6	476.9	864.6	3,678.1	445.6	544.5	990.1
October-December.....	2,583.3	446.4	897.1	3,926.8	486.3	529.4	1,015.7
Department stores.....	803.8	278.6	206.2	1,288.6	208.9	52.7	261.6
Motor vehicle dealers.....	783.3	1,093.4	589.3	2,466.0	23.4	75.8	99.2
Men's clothing stores.....	169.5	12.6	46.0	228.1	4.6	10.6	15.2
Family clothing stores.....	147.8	26.7	39.8	214.3	11.2	9.6	20.8
Women's clothing stores.....	190.9	10.3	53.5	254.7	3.1	9.8	12.9
Hardware stores.....	183.5	12.4	98.8	294.7	5.8	24.1	29.9
Furniture, appliance and radio stores.....	173.0	279.4	116.0	568.4	170.6	26.0	196.6
Jewellery stores.....	77.5	28.7	21.4	127.6	15.8	7.4	23.2
Grocery and combination stores (independent).....	1,261.0	—	380.5	1,641.5	—	35.4	35.4
General stores.....	403.3	—	176.3 ¹	579.6	—	26.6 ¹	26.6
Fuel dealers.....	55.8	5.0	261.8	322.6	1.5	40.2	41.7
Garages and filling stations.....	591.9	—	274.7 ¹	866.6	—	29.3 ¹	29.3
All other trades.....	4,598.0	104.0	1,099.6	5,801.6	41.2	182.1	223.3

¹ Includes instalment.

Subsection 3.—Service Establishments

Service establishments as defined in the Census of Distribution include all those places of business where the major source of gross income (annual turnover) was derived from the rendering of services as opposed to the sale of merchandise. The following types of service were covered: amusement and recreation such as motion-picture theatres and bowling alleys; personal services such as laundries and dry-cleaning plants, barber shops and shoe repair shops; certain business services such as advertising agencies and window display services; repair services such as automobile repair, radio repair and watch repair; burial services; photography, commercial and portrait; hotels and tourist camps; and other services such as cold storage locker rentals and taxis.

Summary statistics of the detailed coverage in 1951 are given in the 1955 Year Book at pp. 974-977. Annual data for certain services only are included here.

Theatres.—The receipts of motion-picture theatres increased steadily up to 1953 when they amounted to \$108,603,966, but thereafter decreased each year to \$82,211,488 in 1957. Drive-in theatres, the most recent of theatre developments, appear to have reached their peak in 1954 with receipts of \$6,316,947.

15.—Motion-Picture Theatres and Receipts, by Province, 1954-57

NOTE.—Figures for 1954-56 include regular and drive-in theatres together with community organizations providing motion-picture entertainment such as churches, lodges, boards of trade, etc., but exclude halls serviced by itinerant operators; figures for 1957 cover regular and drive-in theatres only. Receipts are exclusive of amusement taxes.

Province	1954		1955		1956		1957	
	No.	\$	No.	\$	No.	\$	No.	\$
Newfoundland	115	1,475,567	128	1,564,753	130	1,278,641	65	1,065,958
Prince Edward Island	22	427,680	21	446,187	17	329,699	13	225,195
Nova Scotia	97	4,543,668	99	3,972,238	96	3,252,641	80	2,730,072
New Brunswick	79	2,872,828	80	2,616,167	76	2,371,715	65	2,053,586
Quebec	639	23,066,057	632	19,987,471	563	19,663,010	407	18,893,777
Ontario	645	39,847,466	641	35,983,815	589	34,154,413	526	32,346,718
Manitoba	198	5,773,354	201	4,802,826	185	4,035,086	148	3,689,372
Saskatchewan	435	6,270,287	423	5,549,273	390	5,034,855	229	4,421,336
Alberta	319	9,780,059	324	9,070,426	305	8,168,863	229	7,578,434
British Columbia ¹	264	11,072,915	259	9,826,031	241	9,227,972	183	9,217,040
Canada	2,813	105,129,881	2,808	93,819,187	2,592	87,516,895	1,945	82,211,488

¹ Includes the Yukon and Northwest Territories.

16.—Summary Statistics of Motion-Picture Theatre Operations, 1956 and 1957

Year and Item		Regular Theatres	Drive-in Theatres	Community Enterprises	Halls Serviced by Itinerant Operators	Total
1956						
Establishments	No.	1,849	237	506	394	2,986
Receipts (excluding taxes)	\$	80,666,267	5,394,296	1,456,332	251,925	87,768,820
Amusement taxes	\$	8,674,890	519,638	100,745	13,505	9,308,778
Paid admissions	No.	162,859,006	9,705,982	4,050,779	685,624	177,301,391
1957						
Establishments	No.	1,716	229	..	..	1,945
Receipts (excluding taxes)	\$	76,486,177	5,725,311	..	..	82,211,488
Amusement taxes	\$	7,815,204	520,155	..	..	8,335,359
Paid admissions	No.	146,755,828	9,945,630	..	..	156,701,458

Power Laundries, Dry-Cleaning and Dyeing Plants.—A record of the value of work performed by power laundries and cleaning and dyeing establishments during the years 1953-57 is given in Table 17, together with other basic data on operation.

17.—Summary Statistics of Power Laundries, Dry-Cleaning and Dyeing Plants 1953-57, and by Province 1957

Year	Plants	Em- ployees	Salaries and Wages	Cost of Materials	Value of Work Performed
POWER LAUNDRIES					
	No.	No.	\$	\$	\$
1953	310	14,164	25,801,841	6,511,296	49,120,933
1954	299	13,754	26,635,646	4,665,671	50,513,242
1955	306	13,991	28,078,112	4,994,234	54,199,647
1956	308	14,514	30,090,800	5,738,133	58,873,728
1957	320	14,557	31,869,671	5,746,805	63,106,386

**17.—Summary Statistics of Power Laundries, Dry-Cleaning and Dyeing Plants 1953-57,
and by Province 1957—concluded**

Year and Province	Plants	Em- ployees	Salaries and Wages	Cost of Materials	Value of Work Performed
POWER LAUNDRIES—concluded					
1957	No.	No.	\$	\$	\$
Newfoundland and Prince Edward Island.....	6	146	234,634	52,657	566,818
Nova Scotia.....	14	466	757,220	164,409	1,577,183
New Brunswick.....	13	399	665,669	156,986	1,329,241
Quebec.....	79	4,420	9,422,987	1,779,848	19,412,403
Ontario.....	119	5,135	10,973,121	1,801,144	21,247,050
Manitoba.....	9	561	1,027,641	227,822	2,068,649
Saskatchewan.....	9	315	708,485	155,828	1,382,092
Alberta.....	23	860	1,883,401	376,998	3,948,858
British Columbia, Yukon and N.W.T.....	48	2,255	6,196,513	1,031,113	11,574,092
Canada, 1957.....	320	14,557	31,869,671	5,746,805	63,106,386
DRY-CLEANING AND DYEING PLANTS					
	No.	No.	\$	\$	\$
1953.....	1,029	15,234	29,898,356	7,255,050	64,029,307
1954.....	1,107	15,485	31,512,711	7,535,432	67,222,831
1955.....	1,205	15,909	32,873,802	7,930,290	70,733,466
1956.....	1,338	16,939	35,620,930	9,157,172	78,537,203
1957.....	1,381	16,701	33,286,440	9,710,880	84,281,509
1957					
Newfoundland and Prince Edward Island.....	17	229	509,958	120,281	1,051,643
Nova Scotia.....	51	584	1,162,629	305,380	2,511,549
New Brunswick.....	37	868	643,925	232,387	1,612,432
Quebec.....	264	3,570	8,060,510	2,037,210	17,497,351
Ontario.....	591	7,264	16,780,614	4,259,998	37,078,796
Manitoba.....	61	1,316	3,137,362	713,771	6,135,589
Saskatchewan.....	39	629	1,419,074	373,615	3,510,606
Alberta.....	134	1,398	3,299,120	837,824	7,484,415
British Columbia, Yukon and N.W.T.....	137	1,343	3,283,245	825,414	7,399,098
Canada, 1957.....	1,381	16,701	33,286,440	9,710,880	84,281,509

Advertising Agencies.—Table 18 records the growth of business done by advertising agencies during 1957 as compared with the four previous years.

18.—Summary Statistics of Advertising Agencies, 1953-57

Item	1953	1954	1955	1956	1957
Billings.....	\$ 144,339,308	156,163,289	177,240,355	204,580,522	226,083,949
Commissionable billings.....	\$ 142,967,916	154,467,028	174,924,772	201,797,434	222,025,238
Other.....	\$ 1,381,592	1,696,261	2,315,583	2,783,088	4,058,661
Gross revenue.....	\$ 22,591,718	24,579,169	27,689,654	32,203,754	35,757,762
Distribution of Billings—					
Publications.....	p.c. 59.1	56.4	53.3	52.6	51.6
Production, artwork, etc.....	p.c. 17.4	17.3	15.1	15.3	15.1
Radio.....	p.c. 18.7	15.4	11.9	10.3	10.0
Television.....	p.c. 4.2	5.5	13.5	16.6	18.3
Other visual.....	p.c. 4.2	4.5	5.5	4.4	4.4
Other.....	p.c. 0.6	0.9	0.7	0.8	0.6

Hotels.—In 1957 there were 5,151 hotels in operation in Canada, 4,226 of them full-year hotels and 925 seasonal hotels. Table 19 shows the provincial distribution of these establishments, together with the sources of their revenue.

19.—Hotels and their Receipts, by Source 1953-57 and by Province 1957

Year and Province	Hotels	Rooms	Receipts				
			Rooms	Meals	Beer, Wine and Liquor	All Other Sources	Total
	No.	No.	\$'000	\$'000	\$'000	\$'000	\$'000
1953.....	5,209	149,653	93,914	70,974	209,984	35,843	410,715
1954.....	5,208	148,890	94,094	70,829	204,555	36,378	405,856
1955.....	5,081	147,812	96,273	72,236	211,415	35,385	415,309
1956.....	5,067	149,625	104,453	78,169	223,398	35,811	441,831
1957.....	5,151	151,517	110,505	84,049	238,210	37,305	470,069
1957							
Newfoundland.....	41	1,018	998	835	999	237	3,069
Prince Edward Island.....	24	671	345	293	—	51	689
Nova Scotia.....	130	3,660	3,100	2,673	295	590	6,658
New Brunswick.....	92	3,051	2,157	1,304	—	545	4,006
Quebec.....	1,527	40,048	27,171	20,769	58,411	7,618	113,969
Ontario.....	1,515	48,025	36,095	33,057	69,398	12,583	151,133
Manitoba.....	290	7,970	5,080	3,241	20,553	2,207	31,081
Saskatchewan.....	522	11,598	6,163	3,652	24,860	2,862	37,537
Alberta.....	448	14,952	12,563	7,415	28,827	5,055	53,860
British Columbia ¹	562	20,524	16,833	10,810	34,867	5,557	68,067
Canada, 1957.....	5,151	151,517	110,505	84,049	238,210	37,305	470,069

¹ Includes the Yukon and Northwest Territories.

Section 2.—The Marketing of Agricultural Products

A special article covering the general movement of farm-produced foods from producer to consumer, with the exception of the grain trade and livestock, appears in the 1956 Year Book, pp. 917-922. Grain and livestock marketings are dealt with in detail in Subsections 1 and 2 following.

Subsection 1.—Grain Trade**Marketing Problems and Policies, 1956-57**

Production and marketings of the five major Canadian grains in the crop year 1956-57 were above the 1955-56 level, exports were down slightly and commercial and farm carry-over increased. In comparison with many recent years, growing conditions were far from ideal in the Prairie Provinces while the remainder of Canada experienced generally excellent growing weather for small grains. Despite adverse conditions in the Prairie Provinces, grain yields in Canada in 1956 were well above average, although excessive rain and early frosts lowered the quality in many areas. Marketings of wheat, oats and barley continued under the compulsory crop-year pools system of the Canadian Wheat Board. All grains in Eastern Canada and rye and flaxseed in Western Canada continued to be traded on the open market.

On July 27, 1956, the Canadian Wheat Board announced the main features of the delivery quota policy for the 1956-57 crop year. As in the preceding year, an initial quota of 100 units was to be effective at local delivery stations as announced by the Board (one unit being equivalent to three bushels of wheat, or five bushels of barley or rye, or eight bushels of oats). The initial quota was followed by general delivery quotas, based upon bushels per specified acre, the specified acreage consisting of the producer's acreage

seeded to wheat (other than Durum), oats, barley and rye plus his acreage in summer-fallow in 1956. By Aug. 31, 1956, the Board was in a position to commence general delivery quotas. The final quota summary for the 2,077 shipping points in the Western Division showed that, at July 31, 1957, 1,602 points were on a quota of six bushels per specified acre, 448 were on a five-bushel quota and 27 stations were reported as "closed". A new feature of the delivery quota policy for 1956-57 was the inclusion of delivery quotas applicable to Durum wheat and flaxseed, with these quotas being established at five bushels per seeded acre effective Aug. 1, 1956. A number of supplementary delivery quotas on Durum wheat were authorized during the crop year with the final authorization of three bushels effective June 14, raising the total delivery quota on Durum wheat to 15 bushels per seeded acre. The flaxseed quota was declared open as at Mar. 22, 1957.

Preliminary data indicate that total marketings of the five major grains in Western Canada in 1956-57 amounted to 585,400,000 bu., an increase of 3 p.c. over both the comparable 1955-56 total of 567,300,000 bu. and the ten-year (1946-47-1955-56) average of 571,100,000 bu. Combined exports of the same grains, including wheat flour, rolled oats and oatmeal, malt and pot and pearl barley in grain equivalent, amounted to 389,000,000 bu., 4 p.c. less than the 1955-56 crop-year exports of 406,500,000 bu. but 5 p.c. more than the 1946-47-1955-56 average of 371,000,000 bu. Carryover stocks of the five major grains in all positions at July 31, 1957, were estimated at 1,120,300,000 bu., about 35 p.c. above the 1956 figure of 828,300,000 bu. and more than double the ten-year average of 465,000,000 bu.

20.—Supply and Disposition of Canadian Grain, Crop Years Ended July 31, 1956 and 1957

(Millions of bushels)

Item	Wheat	Oats	Barley	Rye	Flaxseed
Crop Year 1955-56					
Carryover, Aug. 1, 1955.....	536.7	84.0	91.5	19.9	2.6
Production in 1955.....	519.2	399.5	251.1	13.8	19.0
Imports ¹	2	2	2	2	1.1
Totals, Supply.....	1,055.9	483.4	342.6	33.8	22.6
Exports ¹	309.2	4.1	68.7	12.9	11.6
Domestic use ²	167.2	360.2	163.0	5.1	8.1
Totals, Disposition.....	476.4	364.3	231.6	18.1	19.6
Crop Year 1956-57					
Carryover, July 31, 1956.....	579.6	119.1	110.9	15.7	3.0
Production in 1956.....	573.0	524.5	269.1	8.4	35.0
Imports ¹	0.1	2	2	2	2
Totals, Supply.....	1,152.8	643.6	380.0	24.2	38.0
Exports ¹	261.8	18.7	81.5	5.4	21.6
Domestic use ²	161.4	398.7	155.7	4.6	8.8
Totals, Disposition.....	423.2	417.4	237.2	10.0	30.4
Carryover, July 31, 1957.....	729.5	226.2	142.8	14.2	7.6

¹ Import and export data for wheat, oats, barley and rye, respectively, include flour in terms of wheat, oatmeal and rolled oats in terms of oats, malt and pot and pearl barley in terms of barley, and rye flour in terms of rye.
² Less than 50,000 bu. ³ Includes human food, seed requirements, industrial use, loss in handling and animal feed.

Wheat.—Supply and Disposition.—Stocks of wheat on hand at the beginning of the 1956-57 crop year, at 579,600,000 bu., were about 8 p.c. above those of the preceding year. Total crop-year supplies, consisting of carryover stocks plus the 1956 production of 573,000,000 bu. and imports of 100,000 bu., reached the record level of 1,152,800,000 bu. Carryover stocks at the end of the 1956-57 crop year amounted to 729,500,000 bu. and exceeded by 18 p.c. the previous record carryover of 618,700,000 bu. at July 31, 1954.

21.—Production, Imports, Exports and Domestic Use of Wheat, Crop Years Ended July 31, 1951-57

(Millions of bushels)

Item	1950-51	1951-52 ^a	1952-53 ^a	1953-54 ^a	1954-55	1955-56	1956-57 ^a
Carryover, Aug. 1.....	112.2	189.2	217.2	383.2	618.7	536.7	579.6
Production.....	466.5 ^a	553.7 ^a	702.0 ^a	634.0 ^a	332.0	519.2	573.0
Imports ¹	2	2	2	0.5	0.2	2	0.1
Totals, Supply.....	578.7	742.9	919.2	1,017.7	950.8	1,055.9	1,152.8
Exports ¹	241.0	355.8	385.5	255.1	251.9	309.2	261.8
Domestic use.....	148.5	169.9	150.5	143.9	162.2	167.2	161.4
Totals, Disposition.....	389.5	525.7	536.0	399.0	414.1	476.4	423.2
Carryover, July 31.....	189.2	217.2	383.2	618.7	536.7	579.6	729.5

¹ Includes wheat flour in terms of wheat.

² Less than 50,000 bu.

Price and Marketing Arrangements.—The marketing of Western Canadian wheat during the 1956-57 crop year was again conducted by the Canadian Wheat Board on a one-year pool basis, with the initial payment set at \$1.40 per bu. The initial payment for No. 1 C.W. Amber Durum was continued at \$1.50 per bu. No adjustment payments on the 1956-57 deliveries were made during the crop year but on Feb. 1, 1958, an interim payment on the 1956-57 pool account for wheat was announced, amounting to 10 cents per bu. for all grades except milling grades of Durum for which the interim payment was 25 cents. The full amount of this payment was about \$39,200,000. The final payment on the 1956-57 pool was announced on June 9, 1958, and averaged 6.941 cents per bu. on farmers' deliveries of 361,400,000 bu. Prior to deduction of the Prairie Farm Assistance Act levy the net price realized by producers in the 1956-57 pool for No. 1 Northern wheat, basis in store Fort William-Port Arthur or Vancouver, was \$1.58838 per bu.

The crop year 1956-57 coincided with the first year of the third three-year International Wheat Agreement. Under its provisions, Canada had a guaranteed export quota of 99,700,000 bu. for 1956-57 and, according to the final report on the year's transactions, Canadian sales under the Agreement totalled 58,000,000 bu. These sales continued to be quite widely distributed; 26 of the 42 importing countries included in the pact purchased wheat and/or flour from Canada. The larger purchasers were the Federal Republic of Germany, 17,300,000 bu.; Japan, 16,000,000 bu.; Switzerland, 4,800,000 bu.; Norway, 3,600,000 bu.; Ireland, 2,800,000 bu.; the Philippines, 2,800,000 bu.; the Netherlands, 2,200,000 bu.; and Venezuela, 2,000,000 bu. The greater part of Canada's wheat trade in 1956-57 was carried on in Class II wheat (i.e., wheat exported outside the provisions of the International Wheat Agreement). The United Kingdom continued as the leading importer of Class II wheat, shipments to that country accounting for 79,600,000 bu. of wheat as grain and the equivalent of an additional 10,800,000 bu. in the form of wheat flour.

The combined Canadian exports of 261,800,000 bu. of wheat and flour went to 82 countries, territories and colonies.

During the crop year 1956-57, domestic sales of all classes of wheat were made at the same prices as those prevailing for wheat sold under the International Wheat Agreement. Class II prices for all grades of wheat, except Durum, coincided with the IWA and domestic quotations. The average Class II price received for No. 1 C.W. Amber Durum during the crop year was 45 $\frac{3}{8}$ cents per bu. above the comparable IWA and domestic average price of \$1.98.

Exports of wheat and flour (in terms of wheat) during 1956-57 amounted to 261,800,000 bu., a decrease of 15 p.c. from the 309,200,000 bu. exported in 1955-56. The 1956-57 exports consisted of 228,300,000 bu. of wheat as grain and the equivalent of 33,500,000 bu. of wheat flour. Total domestic (commercial and farm) disappearance of wheat in 1956-57 amounted to 161,400,000 bu., below the 1955-56 figure of 167,200,000 bu. but above the ten-year (1946-47—1955-56) average of 151,000,000 bu. The carryover at July 31, 1957, amounted to a record 729,500,000 bu. reflecting the combined effect of record supplies as well as reductions in both exports and domestic disappearance.

Other Grains.—Supply and Disposition.—Preliminary data on supply and disposition of the major Canadian grains for the crop year 1956-57 together with revised data for 1955-56 are given in Table 20. With the exception of rye, production and carryover of each of the five principal Canadian grains was higher in 1956 than in 1955 and as a result the combined total estimated domestic supplies of wheat, oats, barley, rye and flaxseed amounted to some 2,239,000,000 bu. exceeding by 15 p.c. the comparable 1955-56 figure of 1,938,000,000 bu.

Reflecting increases in exports of oats, barley and flaxseed, which more than offset a decrease in rye shipments, the combined export movement of these four grains, plus the grain equivalent of certain products, amounted to 127,200,000 bu., 31 p.c. higher than the 1955-56 level of 97,300,000 bu. Exports of oats, including rolled oats and oatmeal, climbed sharply from 4,100,000 bu. in 1955-56 to 18,700,000 bu. in 1956-57. The 81,500,000 bu. of barley and its products exported in 1956-57 was the third largest on record and represented an increase of 19 p.c. over the 1955-56 level. Rye exports, at 5,400,000 bu., were down sharply from the 12,900,000 bu. exported in 1955-56. Exports of flaxseed amounted to a record 21,600,000 bu., exceeding the 1955-56 figure of 11,600,000 bu. by 86 p.c.

The effect of larger supplies of oats and barley in the 1956-57 crop year was more than sufficient to offset a higher level of exports for both grains as well as a considerable increase in the domestic disappearance of oats. Reflecting this situation, the July 31, 1957, carryover stocks of both oats and barley were considerably greater than those in 1956. Although supplies of rye in 1956-57 were sharply below those of the preceding year this was largely offset by reductions in both exports and domestic disappearance and as a result the carryover of this grain at July 31, 1957, was only 10 p.c. below that of 1956. Although exports of flaxseed were at a record level, the effect of record supplies and only slightly increased domestic disappearance was sufficient to cause July-end stocks to be more than two and a half times greater than those of the preceding year.

Price and Marketing Arrangements.—The marketing of Western Canada oats and barley was again carried on through compulsory crop-year pools administered by the Canadian Wheat Board. Initial payments for both these grains were the same as in 1955-56, i.e., on the basis of 65 cents per bu. for No. 2 C.W. oats and 96 cents per bu. for No. 3 C.W. Six-Row barley, in store Fort William-Port Arthur. No interim or adjustment payments were made on either grain during the crop year. The 1956-57 oats pool

ended the crop year in a deficit position and therefore no final payment was permissible. Final payment on the 120,571,573 bu. of barley delivered to the 1956-57 pool averaged 6.278 cents per bu. after deduction of payment expenses and the 1-p.c. Prairie Farm Assistance Act levy. Total prices (basis in store Fort William-Port Arthur) realized by producers for representative grades after deducting carrying charges in country and terminal elevators, Board Administrative costs, etc., but prior to deducting the 1-p.c. PFAA levy, were \$1.02011 per bu. for No. 3 C.W. Six-Row barley and \$0.92154 for No. 1 Feed barley.

Preliminary data indicate that some 4,100,000 bu. of rye and 29,000,000 bu. of flaxseed were delivered by farmers in Western Canada in 1956-57, both of these grains being sold on the open market. In Eastern Canada, where commercial grain production is on a much smaller scale, all grain continued to be sold on the open market.

Miscellaneous Grain Trade Statistics

Grain Handled at Eastern Elevators.—The volume of grain handled at eastern elevators in the 1956-57 crop year was somewhat lower than in the preceding year. Total receipts of the five grains amounted to 460,400,000 bu., 6 p.c. lower than in 1955-56, while total shipments of 443,900,000 bu. were 12 p.c. lower. The decrease in both receipts and shipments was accounted for by smaller quantities of wheat and rye handled.

22.—Canadian Grain Handled at Eastern Elevators, Crop Years Ended July 31, 1953-57

NOTE.—Figures for the crop years ended 1922-52 are given in the corresponding table of previous Year Books beginning with the 1931 edition.

Item and Crop Year	Wheat	Oats	Barley	Rye	Flaxseed	Total Grain
	bu.	bu.	bu.	bu.	bu.	bu.
Receipts—						
1952-53.....	438,086,442	49,827,694	157,847,406	8,078,375	11,211,224	665,051,141
1953-54.....	229,955,136	41,756,777	84,232,908	1,325,338	10,431,224	367,701,383
1954-55.....	293,901,551	48,141,076	111,800,738	14,346,219	12,975,483	481,165,067
1955-56.....	333,237,962	43,029,962	72,647,433	18,472,661	21,464,557	488,852,575
1956-57.....	294,264,535	48,311,339	81,483,171	2,865,332	33,507,140	460,431,517
Shipments—						
1952-53.....	427,422,896	49,870,352	162,834,639	7,255,950	11,141,489	658,525,326
1953-54.....	211,822,877	42,825,733	86,875,792	1,944,955	10,712,103	354,181,460
1954-55.....	292,069,170	46,730,624	111,432,900	14,239,919	13,047,259	477,519,872
1955-56.....	350,307,242	41,909,092	70,485,188	18,632,238	21,415,998	502,749,758
1956-57.....	277,177,635	48,825,598	81,434,386	3,197,075	33,261,860	443,896,554

Grain Inspections.—The volume of Canadian wheat, oats, barley, rye, flaxseed, corn, buckwheat and mixed grain and a small quantity of United States grain inspected by the Board of Grain Commissioners for Canada in the crop year 1956-57 amounted to 591,200,000 bu. which was 5 p.c. above the 1955-56 total of 560,600,000 bu. Quantities of the various grains inspected at eastern and western points, as well as inspections of soybeans, beans, peas, sample grain, screenings, rapeseed and mustard seed, appear in Table 23.

**23.—Quantities of Grain and Other Field Crops Inspected, Crop Years Ended
July 31, 1956 and 1957**

Crop	1955-56			1956-57		
	Western Division	Eastern Division	Total	Western Division	Eastern Division	Total
	bu.	bu.	bu.	bu.	bu.	bu.
Wheat.....	341,137,953	3,185,932	344,323,915	367,348,789	6,966,845	374,315,634
Spring wheat.....	339,089,733	6,000	339,095,733	364,992,757	—	364,992,757
Winter wheat.....	2,048,220	3,179,932	5,228,152	2,356,032	6,966,845	9,322,877
Oats.....	55,038,770	43,458	55,082,228	57,599,764	39,086	57,638,850
Barley.....	112,480,614	416,640	112,897,254	117,597,585	332,450	117,930,035
Rye.....	12,380,049	70,870	12,450,919	6,160,403	46,850	6,207,253
Flaxseed.....	18,194,329	22,500	18,216,829	29,819,241	3,000	29,822,241
Corn.....	202,825	16,360,074	16,562,899	176,534	4,200,371	4,376,905
Buckwheat.....	274,486	20,702	295,188	231,653	40,736	272,389
Mixed grain.....	480,411 ¹	8,825	489,236	390,042 ¹	—	390,042
Soybeans.....	—	5,776,444	5,776,444	—	5,376,165	5,376,165
Beans.....	—	378,238	378,238	—	382,615	382,615
Peas.....	cars 57	—	2	cars 234	—	2
Sample grain.....	—	—	—	2	—	2
Screenings.....	322	—	2	471	—	2
Rapeseed.....	642	—	1,193,478 ¹	bu. 4,724,929 ¹	163,946	4,888,875
Mustard seed ¹	18	—	2	1,176,775	—	1,176,775
U.S.A. corn.....	249,795	—	249,795	213,500	—	213,500
U.S.A. flaxseed.....	—	68,000	68,000	—	43,628	43,628
U.S.A. beans.....	—	—	—	—	533	533
U.S.A. mustard seed....	—	—	—	22,197	—	22,197
Western Grain In- spected in the East- ern Division						
Barley.....	...	773,295	773,295	...	536,300	536,300
Flaxseed.....	...	761,533	761,533	...	8,030,368	8,030,368
Buckwheat.....	...	23,438	23,438	...	—	—
Mixed grain.....	...	3,000	3,000	...	—	—
Peas.....	...	15,258	15,258	...	31,891	31,891

¹ In bushels of 50 lb.² Quantity in bushels not available.

Lake Shipments of Grain.—The 1957 navigation season opened officially on Apr. 23 and closed on Dec. 14. During that season, total vessel shipments of wheat, oats, barley, rye, flaxseed and buckwheat amounted to 278,600,000 bu., 24 p.c. below the 1956 total of 367,200,000 bu. The 1956 season of navigation opened on Apr. 11 and closed on Dec. 17.

**24.—Lake Shipments of Canadian Grain from Fort William-Port Arthur,
Season of Navigation 1956 and 1957**

Grain	1956			1957		
	To Canadian Ports	To U.S. Ports	Total Shipments	To Canadian Ports	To U.S. Ports	Total Shipments
Wheat..... bu.	199,428,841	6,687,997	206,135,505 ¹	150,732,926	6,444,403	157,216,512 ²
Oats..... "	42,424,872	5,091,915	47,516,787	31,645,712	17,141,860	48,787,572
Barley..... "	62,065,011	29,878,371	91,990,410 ³	36,394,980	20,311,467	56,706,447
Rye..... "	7,693,781	3,376,703	11,070,484	880,880	3,392,744	4,273,624
Flaxseed..... "	10,263,835	28,231	10,292,066	11,532,513	—	11,532,513
Buckwheat..... "	121,313	41,404	162,717	91,730	—	91,730
Totals..... bu.	321,997,653	45,104,621	367,167,969	231,278,741	47,290,474	278,608,398
Mixed grain..... lb.	—	—	—	1,193,710	—	1,193,710
Sample grain..... "	9,036,051	952,150	9,988,201	16,328,310	—	16,328,310
Screenings..... tons	56,752	52,135	108,887	49,176	35,325	84,501

¹ Includes 18,667 bu. shipped direct to Europe.
shipped direct to Europe.² Includes 39,193 bu. wrecked.³ Includes 47,028 bu.

Wheat Flour.—After reaching a peak of 56,033,000 cwt. in 1946-47, Canadian wheat flour production dropped to a postwar low of 39,708,000 cwt. in 1949-50. Production in each of the following three crop years was only slightly below the five-year (1945-46—1949-50) average of 47,012,000 cwt. A relatively sharp drop occurred in 1953-54 and was followed by further slight declines in both 1954-55 and 1955-56. Another sharp drop brought production down to 37,623,000 cwt. in 1956-57. During that crop year only 69.3 p.c. of milling capacity was utilized compared with 73.7 p.c. in 1955-56.

Exports of wheat flour during recent years have followed approximately the same pattern as production, dropping from the 1946-47 peak of 33,117,000 cwt. to 14,582,000 cwt. in 1956-57. The 1956-57 exports of wheat flour amounted to approximately 38.8 p.c. of production, the smallest proportion exported since 38.1 p.c. was exported in the crop year 1939-40.

25.—Wheat Milled for Flour, and Production and Exports of Wheat Flour, Five-Year Averages 1936-50 and Crop Years Ended July 31, 1951-57

Crop Year (Aug. 1-July 31)	Wheat Milled for Flour	Wheat Flour Production	Wheat Flour Exports	
			Amount	P.C. of Production
	'000 bu.	cwt.	cwt.	
Av. 1935-36 — 1939-40.....	67,845	29,405,451	9,603,941	32.7
Av. 1940-41 — 1944-45.....	99,705	43,908,245	23,699,546	54.0
Av. 1945-46 — 1949-50.....	107,330	47,011,540	25,819,721	54.9
1950-51.....	106,748	46,315,153	24,356,912	52.6
1951-52.....	104,494	44,771,184	22,258,324	49.7
1952-53.....	106,727	46,776,625	24,609,199	52.6
1953-54.....	91,855	40,769,909	20,142,824	49.4
1954-55.....	92,407	40,606,599	17,692,945	43.6
1955-56.....	91,770	40,148,750	17,391,300	43.3
1956-57.....	85,149	37,623,446	14,582,431	38.8

Subsection 2.—Livestock Marketings*

Commercial marketings of cattle were 16.5 p.c. greater in 1957 than in 1956. Calf marketings increased 4.4 p.c. but the hog movement through recorded commercial channels was down by 9.4 p.c. and that of sheep and lambs decreased by 1.4 p.c. Slaughter classes of steers sold at stockyards and packing plants increased 6 p.c. over 1956 to a record high of 828,736 head. A 17.5-p.c. increase in sales of the heavier grades (over 1,000 lb.) was responsible for the rise; sales of steers up to 1,000 lb. dropped 6 p.c. As compared with 1956, heifer gradings increased 16 p.c., cows increased 11.5 p.c. and fed calves decreased 1.5 p.c. Steers constituted 34.1 p.c. of slaughter cattle in 1957 compared with 35.0 p.c. in 1956. Shipments of feeder cattle and calves from yards and packing plants or on through-billing to Canadian country points outside the province of origin totalled 487,775 head in 1957, an increase of nearly 12 p.c. over the previous year. There was little change in the proportion of hogs graded into each category; Grade A hogs made up 28.7 p.c. of 1957 gradings compared with 28.5 p.c. in 1956, Grade B hogs 50.8 p.c. compared with 50.7 p.c., and Grade C hogs made up 9.9 p.c. of total gradings compared with 9.7 p.c. Judged by the proportion of hog carcasses classified as Grade A, the western provinces as a whole indicated improved quality but in the central provinces the quality was not as good as in 1956. As

* More detailed information is available from DBS annual report *Live Stock and Animal Products Statistics*, and the Department of Agriculture publication *Livestock Market Review*. Statistics of livestock and poultry are given at pp. 426-430 of this edition of the Year Book.

usual, the Maritime Provinces were far ahead of the other provinces in percentage of A gradings. There were fewer sheep and lambs marketed in 1957 than in 1956—515,277 head against 554,808—and little change was shown in the proportion of live lambs graded as “good”—59.6 p.c. compared with 59.1 p.c. in 1956.

26.—Livestock Marketed at Stockyards and Packing Plants, by Grade, 1953-57

(Exclusive of Newfoundland)

Livestock	1953	1954	1955	1956	1957
	No.	No.	No.	No.	No.
Cattle	1,701,004	1,938,672	1,992,818	2,235,443	2,427,669
Steers up to 1,000 lb.—					
Choice.....	37,346	55,973	66,813	82,296	92,121
Good.....	86,060	98,113	104,700	107,334	110,407
Medium.....	110,907	132,724	122,454	126,516	110,562
Common.....	85,947	90,091	60,360	73,081	52,564
Steers over 1,000 lb.—					
Choice.....	114,746	125,477	143,539	152,219	192,787
Good.....	125,963	112,467	120,835	143,027	160,954
Medium.....	77,202	75,453	67,835	82,022	93,521
Common.....	27,705	22,583	13,021	16,643	15,820
Heifers—					
Choice.....	14,253	16,261	25,666	28,773	49,900
Good.....	64,803	75,071	78,080	76,949	96,777
Medium.....	86,845	107,370	113,593	124,069	146,861
Common.....	70,153	32,146	74,210	92,552	79,954
Fed calves.....	146,323	172,810	174,017	169,635	166,933
Cows.....	386,785	474,775	526,290	584,402	652,428
Bulls.....	83,220	77,566	73,865	73,846	78,805
Stocker and feeder steers.....	143,828	177,857	193,067	240,552	274,585
Stock cows and heifers.....	34,341	38,695	34,174	61,281	52,679
Milkers and springers.....	4,577	3,240	349	246	11
Calves	819,921	899,887	906,623	963,191	999,797
Veal—					
Good and choice.....	232,820	233,671	275,547	244,774	257,578
Common and medium.....	446,111	534,717	486,092	558,063	559,886
Grass.....	72,973	59,005	76,508	87,726	75,605
Stocker.....	68,017	72,494	68,476	72,628	106,828
Hog Carcasses	5,002,814	5,078,715	5,916,584	5,959,605	5,400,239
“A”.....	1,363,720	1,317,890	1,603,070	1,696,209	1,551,536
“B”.....	2,673,573	2,723,127	3,071,901	3,018,166	2,738,881
“C”.....	392,410	463,415	568,724	577,766	685,899
“D”.....	23,180	21,663	28,899	30,897	21,032
Heavies.....	115,817	112,812	115,895	108,720	118,983
Extra heavies.....	92,469	88,425	84,039	85,451	93,242
Lights.....	87,550	71,667	117,854	123,008	75,108
Sows.....	207,171	234,189	274,672	266,091	218,250
Injured, ridglings and stags.....	46,924	45,527	51,530	53,297	47,308
Lambs and Sheep Graded Alive	520,019	539,627	555,694	554,808	515,277
Lambs—					
Good.....	306,397	323,752	340,786	328,261	307,141
Common.....	95,629	103,137	108,440	109,926	107,632
Bucks.....	62,336	51,726	43,138	49,178	37,751
Feeders.....	10,496	16,002	18,160	21,938	23,232
Sheep—					
Good.....	23,364	22,474	23,510	23,014	20,359
Common.....	21,797	22,536	21,660	22,491	19,162
Lamb and Sheep Carcasses	28,441	32,937	40,337	49,688	71,441
Lambs—					
“A”.....	13,502	14,998	16,055	17,616	28,119
“B”.....	6,268	7,284	10,345	13,050	18,395
“C”.....	3,971	5,147	6,724	10,281	13,175
“D”.....	1,457	1,885	2,354	2,621	3,204
“E”.....	249	483	503	705	825
Sheep.....	2,994	3,140	4,356	5,415	7,723

27.—Livestock Marketed at Public Stockyards, Packing Plants and Direct for Export, by Province, 1957

(Exclusive of Newfoundland)

Livestock	Maritime Provinces	Quebec	Ontario	Manitoba	Saskat- chewan	Alberta	British Columbia	Total
	No.	No.	No.	No.	No.	No.	No.	No.
Cattle	38,977	123,614	748,860	247,931	561,243	807,858	77,385	2,708,746¹
Totals to stockyards....	2,372	65,142	399,017	163,969	386,549	518,254	16,710	1,552,013
Direct to packers.....	35,188	57,065	300,506	81,521	118,561	245,483	37,332	875,656
Direct for export.....	492	1,407	48,992	2,281	31,664	36,502	21,884	247,000 ¹
Country points in other provinces ²	25	—	345	160	24,469	7,619	1,459	34,077
Calves	32,170	322,505	268,207	97,903	123,277	178,583	10,935	1,033,580
Totals to stockyards....	6,399	113,164	99,007	47,452	89,187	94,077	2,685	451,971
Direct to packers.....	25,090	209,278	159,016	50,183	20,624	76,426	7,209	547,826
Direct for export.....	681	63	10,165	218	1,690	1,037	334	14,188
Country points in other provinces ²	—	—	19	50	11,776	7,043	707	19,595
Hogs	118,318	937,458	2,017,186	331,672	534,949	1,432,376	29,238	5,401,197
Totals to stockyards....	3	95,862	214,480	83,782	97,427	174,241	269	666,064
Direct to packers.....	117,932	841,596	1,802,373	247,890	437,515	1,257,916	28,953	4,734,175
Direct for export.....	383	—	333	—	7	219	16	958
Sheep and Lambs	41,077	137,037	162,410	34,244	45,082	163,132	29,560	612,542
Totals to stockyards....	2,345	24,169	67,097	11,033	19,487	50,151	3,611	177,893
Direct to packers.....	38,642	112,868	93,690	23,165	13,511	101,257	25,692	408,825
Direct for export.....	90	—	1,623	35	1,106	9,150	287	12,261
Country points in other provinces ²	—	—	—	11	10,978	2,574	—	13,563
Total Inward Movement²								
Cattle.....	250	1,337	168,918	5,455	37,174	126,557	1,980	341,671
Calves.....	89	144	42,104	839	6,347	24,508	363	74,394
Sheep and lambs.....	—	2	18,135	3,026	1,410	15,728	929	39,230

¹ Including 103,778 head exported with province of origin not designated.

stockyards to country points outside province of origin.

² Livestock billed through stockyards to farms from stockyards and plants on through-billings from country points in one province to country points in another province.

Section 3.—Warehousing and Cold Storage*

Warehousing ranks high among the means by which the utilities of 'place', 'time' and 'possession' are added to the products of industry. Its importance has been emphasized in modern times because of the introduction of cold storage methods in the conservation of perishable foods.

The presentation of warehousing statistics is difficult because it is not an easy matter to define clearly what are to be regarded as stocks in storage. In these days of complicated business relationships and especially since the rise of the department store and chain store as characteristic institutions in the retail merchandising field, it often happens that warehousing is carried on in close relationship with merchandising. However, if the strict economic definition of warehousing is adopted, then this term should be restricted to those facilities that add the utility of 'time' to the 'form' utilities that are the product of the extraction and manufacturing industries. Because the warehouses established in close connection with retail trade are more often than not convenient places for the temporary storage of goods in process of transfer from the manufacturer or wholesaler to the consumer, they are not, in the strict economic sense, services that add the utility of 'time' to commodities already worked up into 'form'. As some clear line must be drawn and because separate statistics of the latter branch of storage are not available, it is considered practicable to interpret warehousing in this way.

The statistics of warehousing are gathered together under this Section. Subsection 1 presents statistics of the licensed storage of grain. Subsection 2 deals with cold storage facilities without which perishable foods such as meats, dairy products, fish and fruits could not be exchanged or distributed on a wide scale; it includes also figures of stocks of food on hand. Subsection 3 deals with the storage of petroleum and its products, and Subsection

* Information supplied by various Divisions of the Departments of Agriculture, Fisheries, Mines and Technical Surveys, and National Revenue and of the Dominion Bureau of Statistics.

4 with public warehouses and customs warehouses. The facilities that specialize in the storage of tobacco and alcoholic liquors are analysed in Subsection 5. These bonded warehouses, as they are called, are under the strict surveillance of Federal Government excise officers, who supervise all movements into and from such places of storage.

Subsection 1.—Licensed Grain Storage

Total grain storage capacity in Canada, licensed under the provisions of the Canada Grain Act by the Board of Grain Commissioners for Canada, amounted to 622,200,000 bu. at Dec. 1, 1956, an increase of 22,900,000 bu. over the level at Dec. 1, 1955. Some 18,900,000 bu. of this increase occurred in western country elevators. Licensed grain storage capacity in Canada had reached a peak of 603,000,000 bu. at Dec. 1, 1943, but, following the disposal of heavy wartime stocks, declined to 482,400,000 bu. at Dec. 1, 1947. Since that date, capacity has increased each year.

As in 1955, grain yields in Canada were well above average in 1956, although excessive rain and early frosts lowered the quality in many areas. With bumper crops being harvested in four of the preceding five years, the pressure on Canada's grain storage and handling facilities continued heavy. Farmers' marketings of western grain are governed to a considerable extent by space made available in country elevators as grain moves forward into domestic and export channels. As indicated in Table 28, there was almost no variation in the proportion of elevator space occupied at Nov. 28 and Apr. 3 in the 1956-57 crop year but by July 31 the proportion occupied had increased to 80.9 p.c. Information is given in the table for only three dates in the crop year, but weekly data on stocks of grain in various commercial positions may be obtained from the DBS bulletin *Grain Statistics Weekly*.

28.—Licensed Grain Storage Capacity and Grain in Store, Crop Years 1955-56 and 1956-57

NOTE.—Because these figures are exclusive of stocks in transit or in Eastern Canada mills, they are lower than those shown in Table 22, p. 919.

Crop Year and Storage Position	Licensed Storage Capacity	Canadian Grain in Licensed Storage			Proportion of Licensed Storage Capacity Occupied		
	Dec. 1, 1955	Nov. 30, 1955	Mar. 28, 1956	July 31, 1956	Nov. 30, 1955	Mar. 28, 1956	July 31, 1956
1955-56	'000 bu.	'000 bu.	'000 bu.	'000 bu.	p.c.	p.c.	p.c.
Western country.....	352,824	270,384	251,242	295,782	76.6	71.2	83.8
Interior, private and mill.....	20,595	8,899	8,809	8,526	43.2	42.8	41.4
Interior, terminals.....	23,100	19,615	18,608	18,559	84.9	80.6	80.3
Pacific coast.....	20,106	7,124	14,174	12,349	35.4	70.5	61.4
Fort William-Port Arthur.....	90,517	51,228	71,993	46,544	56.6	79.5	51.4
Georgian Bay and upper Lake ports.....	36,641	31,907	7,724	30,064	87.1	21.1	82.1
Lower Lake and upper St. Lawrence ports.....	20,400	14,766	10,572	14,483	72.4	51.8	71.0
Lower St. Lawrence ports.....	27,912	20,622	14,986	16,347	73.9	53.7	58.6
Maritime ports ¹	7,229	6,680	3,119	365	92.4	43.1	5.0
Totals, 1955-56	599,325	431,227	401,228	443,019	72.0	66.9	73.9
	Dec. 1, 1956	Nov. 28, 1956	Apr. 3, 1957	July 31, 1957	Nov. 28, 1956	Apr. 3, 1957	July 31, 1957
1956-57	'000 bu.	'000 bu.	'000 bu.	'000 bu.	p.c.	p.c.	p.c.
Western country.....	371,679	284,947	287,117	316,491	76.7	77.2	85.2
Interior, private and mill.....	20,522	10,110	11,647	9,397	49.3	56.8	45.8
Interior, terminals.....	23,100	19,312	18,090	17,245	83.6	78.3	74.7
Pacific coast.....	22,256	13,494	15,937	13,297	60.6	71.6	59.7
Fort William-Port Arthur.....	90,517	58,007	80,693	69,329	64.1	89.1	76.6
Georgian Bay and upper Lake ports.....	36,641	29,510	15,229	32,957	80.5	41.6	89.9
Lower Lake and upper St. Lawrence ports.....	20,520	13,301	10,480	15,325	64.8	51.1	74.7
Lower St. Lawrence ports.....	29,712	22,112	15,253	23,426	74.4	51.3	78.8
Maritime ports ¹	7,229	6,582	4,574	6,084	91.0	63.3	84.2
Totals, 1956-57	622,178	457,376	459,018	503,550	73.5	73.8	80.9

¹ Excludes Newfoundland.

Subsection 2.—Cold Storage and Storage of Foods

Cold Storage Warehouses.—Under the Cold Storage Act (R.S.C. 1952, c. 52), as amended (R.S.C. 1952, c. 313), subsidies are granted by the Federal Government to encourage the construction and equipment of cold storage warehouses open to the public. The Act is administered by the Department of Agriculture.

There are five classifications of cold storage warehouses in Canada: (1) public warehouses that store foods and food products and where the entire space is open to the public; (2) semi-public, or those that store foods and where part of the space is retained for the products of the owner and the remainder is available to the public; (3) private, or those that store foods and food products and allot no space to the public, a classification that includes refrigerated space in connection with abattoirs, creameries, dairies, cheese factories and wholesale and retail distributing warehouses; (4) locker plant, where the total space is occupied by lockers for rental to the public and where food and food products may be cut, processed, chilled and frozen for storage in lockers; and (5) bait depots, where space is used solely or principally for the freezing and storing of bait for the use of fishermen.

No hard and fast rule can be laid down for distinguishing between public and private warehouses. In general those owned and operated by firms trading in the goods stored in the warehouse are considered as private, although most of these places rent space to the public when it is not required for their own purposes.

The figures in Tables 29 and 30, compiled by the Department of Agriculture, give some idea of the cold storage warehouse capacity in Canada, but it must be explained that it is not possible to secure completely accurate information on this subject and that the figures are approximations only.

29.—Cold Storage Warehouses, by Province, Year Ended Mar. 31, 1958

NOTE.—Figures are approximate only.

Province	Subsidized Public Warehouses				All Warehouses	
	No.	Refrigerated Space	Cost	Total Subsidy	No.	Refrigerated Space
		cu. ft.	\$	\$		cu. ft.
Newfoundland.....	2	44,078	199,700	66,566	68	2,409,521
Prince Edward Island.....	11	337,517	308,408	95,966	23	578,684
Nova Scotia.....	23	4,997,195	4,048,342	1,206,515	191	7,151,477
New Brunswick.....	13	1,875,161	1,805,396	567,473	94	3,723,745
Quebec.....	57	5,577,520	5,231,227	1,673,824	392	25,672,547
Ontario.....	84	13,301,492	10,672,870	3,330,331	963	42,317,250
Manitoba.....	10	3,154,371	2,223,770	669,265	297	11,448,424
Saskatchewan.....	23	1,172,381	1,762,526	562,939	325	5,618,539
Alberta.....	9	1,447,845	2,153,657	701,608	307	8,512,136
British Columbia.....	72	23,264,745	9,739,962	2,933,330	408	35,263,971
Totals.....	304	55,172,305	38,145,858	11,807,817	3,068	142,696,294

30.—Cold Storage Warehouses and Refrigerated Space, by Province, as at June 30, 1953

NOTE.—Figures are subject to revision.

Class of Storage	Newfoundland	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Canada
Public and Semi-public—											
Warehouses..... No.	3	12	33	23	144	220	16	13	19	82	565
Refrigerated Space—											
0° to 30°..... cu. ft.	2,400	31,029	407,075	88,556	3,876,579	904,605	6,060	180,141	122,238	675,369	6,303,052
0° to 10°..... "	251,100	220,272	940,668	1,883,580	4,272,145	10,245,632	4,000,770	540,183	1,236,722	3,846,610	27,443,712
Above 30°..... "	9,480	43,898	3,476,769	962,887	8,141,381	13,351,602	1,139,772	408,598	356,847	21,294,140	49,245,174
Locker.....	—	24,618	49,331	66,967	37,074	815,784	39,480	64,278	61,334	144,562	1,303,478
Private—											
Warehouses..... No.	41	10	140	71	237	535	194	113	165	232	1,738
Refrigerated Space—											
0° to 30°..... cu. ft.	232,135	72,926	444,845	63,198	720,506	735,500	386,168	187,603	273,669	869,521	3,986,161
0° to 10°..... "	1,366,633	36,693	618,007	371,800	922,959	4,396,490	726,912	598,857	1,206,155	2,091,750	12,336,306
Above 30°..... "	192,231	142,385	1,151,695	282,417	7,653,149	9,976,694	4,356,861	2,082,398	4,278,640	5,198,662	35,265,192
Locker.....	1,000	5,898	—	4,340	—	96,679	5,763	1,020	41,592	37,420	193,712
Bait Depots—											
Warehouses..... No.	24	1	17	—	—	—	—	—	—	—	42
Refrigerated Space—											
0° to 30°..... cu. ft.	321,502	—	47,173	—	—	—	—	—	—	—	368,675
0° to 10°..... "	29,480	965	3,764	—	—	—	—	—	—	—	34,209
Above 30°..... "	2,700	—	—	—	—	—	—	—	—	—	2,700
Locker.....	—	—	—	—	—	—	—	—	—	—	—
Locker Plants—											
Warehouses..... No.	—	—	1	—	11	208	87	199	123	94	723
Refrigerated Space—											
0° to 30°..... cu. ft.	—	—	2,160	—	8,000	42,455	245,913	14,750	8,350	33,998	356,226
0° to 10°..... "	—	—	—	—	4,150	270,085	62,452	62,033	46,990	67,665	500,374
Above 30°..... "	—	—	—	—	5,846	290,078	158,367	354,009	226,273	162,613	1,194,186
Locker.....	—	—	4,000	—	30,158	1,191,646	336,326	1,105,300	689,326	841,641	4,198,397
Totals, Warehouses..... No.	68	23	191	94	392	963	297	325	307	408	3,068
Totals, Refrigerated Space... cu. ft.	2,409,521	578,684	7,151,477	3,723,745	25,672,547	42,317,250	11,448,424	5,618,639	8,545,136	35,265,981	142,732,304

31.—Stocks of Food Commodities in Dairy Factories and Cold Storage Warehouses, as at Jan. 1, 1956 and 1957

Item	As at Jan. 1	Minimum during Year	Date at which Minimum Occurred	Maximum during Year	Date at which Maximum Occurred	Twelve- Month Average
1956						
Butter, creamery, dairy and whey ¹.....'000 lb.	100,804	63,793	May 1	122,157	Oct. 1	93,159
Cheese, cheddar ¹"	38,249	26,634	May 1	45,172	Oct. 1	35,762
Evaporated whole milk....."	40,856	18,288	Apr. 1	62,474	Sept. 1	40,303
Skim milk powder....."	13,411	9,242	Dec. 1	14,972	Aug. 1	12,784
Eggs, shell ¹.....'000 cases	53	53	Jan. 1	177	June 1	109
Eggs, frozen.....'000 lb.	5,983	4,253	May 1	6,817	Aug. 1	5,665
Poultry, dressed and evis- cerated ¹"	26,121	10,803	Aug. 1	44,900	Dec. 1	20,533
Pork, fresh....."	5,335	3,972	Oct. 1	5,904	May 1	5,062
Pork, frozen....."	20,507	7,432	Nov. 1	37,116	May 1	23,749
Pork, cured and in cure....."	10,784	9,495	Nov. 1	13,079	Aug. 1	11,626
Lard....."	5,707	2,989	Nov. 1	10,094	June 1	6,322
Beef, fresh....."	12,667	10,316	July 1	15,342	Nov. 1	13,063
Beef, frozen....."	19,369	11,674	Aug. 1	21,160	Dec. 1	16,379
Beef, cured, etc....."	371	314	Nov. 1	618	June 1	458
Veal....."	4,325	1,961	Apr. 1	6,554	Dec. 1	4,345
Mutton and lamb....."	3,468	657	Sept. 1	3,513	Feb. 1	2,017
Apples, fresh.....'000 bu.	5,735	230	June 1	6,496	Nov. 1	2,192
Fruit, frozen.....'000 lb.	24,211	14,609	June 1	25,808	Sept. 1	21,424
Fruit, in preservatives....."	12,144	8,550	July 1	12,728	Feb. 1	11,035
Potatoes.....'000 cwt.	12,817	920	June 1	18,450	Nov. 1	6,247
1957						
Butter, creamery, dairy and whey ¹.....'000 lb.	88,322	36,927	May 1	90,768	Nov. 1	68,642
Cheese, cheddar ¹"	39,651	28,122	May 1	57,853	Oct. 1	42,746
Evaporated whole milk....."	38,045	12,285	Apr. 1	81,372	Oct. 1	44,819
Skim milk powder....."	7,973	3,335	Apr. 1	43,478	Dec. 1	18,099
Eggs, shell ¹.....'000 cases	119	90	Dec. 1	479	July 1	284
Eggs, frozen.....'000 lb.	5,182	5,182	Jan. 1	14,996	Nov. 1	10,403
Poultry, dressed and evis- cerated ¹"	43,262	19,939	Sept. 1	47,132	Dec. 1	30,915
Pork, fresh....."	3,710	3,710	Jan. 1	5,251	May 1	4,408
Pork, frozen....."	10,549	7,855	Oct. 1	21,713	June 1	14,096
Pork, cured and in cure....."	7,607	7,607	Jan. 1	12,077	Apr. 1	9,282
Lard....."	4,866	4,027	Nov. 1	7,354	May 1	5,524
Beef, fresh....."	13,113	12,497	Apr. 1	15,615	Dec. 1	13,725
Beef, frozen....."	22,991	10,984	July 1	22,991	Jan. 1	15,378
Beef, cured, etc....."	365	304	Apr. 1	459	Nov. 1	395
Veal....."	5,605	1,854	Apr. 1	5,605	Jan. 1	4,078
Mutton and lamb....."	2,796	666	Sept. 1	2,796	Jan. 1	1,638
Apples, fresh.....'000 bu.	4,299	252	June 1	3,624	Nov. 1	2,267
Fruit, frozen.....'000 lb.	21,686	13,470	June 1	31,144	Oct. 1	22,844
Fruit, in preservatives....."	10,946	8,920	July 1	12,646	Dec. 1	10,931
Potatoes.....'000 cwt.	12,759	1,820	June 1	18,958	Nov. 1	6,745

¹ Includes amounts in transit.

Cold Storage Holdings of Fish.—Stocks of frozen fish held in Canada during 1956 followed the usual seasonal trend. Normally, stocks are drawn down during the early months of the year and reach a low point at the beginning of April or May when fishing has almost ceased; during subsequent months they increase, and reach a peak at the beginning of October or November. In 1956, stocks were on the average slightly higher than in 1955.

Holdings of frozen fish at any particular time tend to reflect the strength of the market as well as the level of production. For example, the 1956 production of frozen Pacific halibut was higher than in 1955 and prices were good. At the end of the season, however, prices dropped sharply, exports declined and larger-than-normal holdings were carried over into the 1957 marketing year. At the beginning of the year, stocks of frozen Pacific salmon were much lower than in the previous year. A decline in exports more than offset

an increase in production, and stocks in the last few months of the year were much higher than in the previous year. While the 1956 production of frozen groundfish fillets (including blocks) was higher than in 1955, the demand for these products in the United States market was greater than in 1955. Even so, stocks remained generally higher than in the previous year, especially during the last half of the year.

32.—Storage Stocks of Fish, by Month and by Type, 1955 and 1956

NOTE.—Stock totals are as at the beginning of each month; stocks of individual products are monthly averages.

Month	1955	1956	Group and Product	1955	1956
	'000,000 lb.			'000,000 lb.	
Jan. 1.....	49.5	38.8	Frozen, Fresh Sea Fish¹	34.1	34.5
Feb. 1.....	42.5	31.2	Salmon, Pacific, dressed and filleted.....	5.1	4.9
Mar. 1.....	33.9	24.8	Halibut, Pacific, dressed.....	7.5	6.8
Apr. 1.....	23.5	20.4	Herring, Atlantic, round.....	0.8	0.5
May 1.....	24.5	23.0	Cod, Atlantic, filleted.....	5.6	8.2
June 1.....	28.1	25.9	Frozen, Fresh Freshwater Fish¹	4.9	5.4
July 1.....	37.9	38.5	Whitefish, dressed and filleted.....	1.2	1.0
Aug. 1.....	47.8	49.8	Tullibee, round or dressed.....	0.3	0.2
Sept. 1.....	54.9	61.6	Pickarel (yellow) dressed and filleted.....	0.9	0.8
Oct. 1.....	54.7	66.5	Frozen, Smoked Fish¹	2.4	2.5
Nov. 1.....	53.9	65.8	Cod, Atlantic, filleted.....	1.3	1.3
Dec. 1.....	46.2	63.4	Sea herring, dressed.....	0.5	0.6
			Haddock, dressed.....	0.4	0.2
Averages.....	41.4	42.4	Totals.....	41.4	42.4

¹ Includes other items not listed.

Cold Storage of Dairy Products.—Cold storage facilities are a necessary adjunct in the manufacture of dairy products, most of which are perishable in varying degrees. All creameries have facilities for the storing of butter, the size and type of storage depending on the size of the creamery. If the butter produced at small country plants is not printed for immediate sale, the butter solids are disposed of or are transported to larger creameries where better refrigeration is available or to private or public cold storages in the larger urban centres. Temperature control is important in the curing process for cheese as well as in the prevention of deterioration. Most cheese factories are equipped with mechanical refrigeration and are required to have storage capacity for 17 days' produce during the period of maximum manufacture. The cheese is then transferred to central warehouses. As soon as milk is bottled it is placed in storage and held until delivery. Dry whole milk and other dried milk products containing fat are usually stored in cool air chambers to prevent rancidity.

Cold Storage of Apples and Potatoes.—Cold storage space for apples in Canada has increased rapidly in recent years as a result of the promotion of orderly marketing, the extension of the marketing season generally, and increased production in some areas. This trend has followed the curtailment in shipments to traditional markets in the United Kingdom and other European countries after World War II. There has been an increase recently in the construction of both private and co-operatively owned storages, particularly in the Province of Quebec.

Potatoes are not ordinarily held in cold storage but recently there has been an increase in the construction of potato storage houses and warehouses in the commercial producing areas.

Subsection 3.—Storage of Petroleum and Petroleum Products

Bulk storage plants for petroleum and petroleum products are established at convenient distributing centres, usually on a waterfront so that full advantage may be taken of the lower cost of water-borne traffic. From these centres the goods are transferred by boat,

rail or truck to smaller distributing depots or directly to retail outlets. The principal refining and distributing centres are located at or near Halifax, Quebec, Montreal, Ottawa, Toronto, Sarnia, Fort William, Regina, Calgary, Turner Valley, Edmonton and Vancouver.

33.—Petroleum and Petroleum Products in Storage as at Jan. 1, 1956-58

(Barrels of 35 Imperial gallons)

Product	1956	1957	1958
	bbl.	bbl.	bbl.
Crude oil.....	20,611,836	23,265,678	22,566,035
Liquefied petroleum gas.....	77,012	99,332	77,010
Petrochemical feed stocks.....	20,861	24,280	26,771
Naphtha specialties.....	299,887	271,924	300,767
Aviation gasoline.....	1,498,748	1,101,526	1,631,764
Motor gasoline.....	14,795,328	18,396,415	18,150,366
Aviation turbo-fuel.....	615,230	585,056	740,460
Kerosene, stove oil and tractor fuel.....	3,674,612	5,180,014	5,028,353
Diesel fuel.....	3,524,148	4,640,484	6,166,138
Light fuel oil (Nos. 2 and 3).....	13,108,360	15,280,104	16,337,101
Heavy fuel oil (Nos. 4, 5 and 6).....	4,750,853	5,755,440	6,348,591
Asphalt.....	905,834	917,405	1,323,910
Coke.....	23,950	32,632	24,479
Lubricating oil and grease.....	1,232,165	1,429,452	1,579,159
Wax and candles.....	16,090	11,271	19,480
Other products.....	266	52,761	169,907
Still gas.....	726	298	1,448
Unfinished products.....	5,578,485	5,179,505	5,125,988

Subsection 4.—General Warehousing

Public Warehouses.—The summary statistics of the warehousing industry in Canada presented in Table 34 cover the operations of the majority of firms offering warehousing and storage facilities to the public. The 1957 statistics include returns from 234 operators as compared with 227 reporting in 1956. Associations and organizations such as co-operatives operating warehouses or storages for their own members are not included nor are packing houses and other firms operating storage facilities in connection with their respective businesses. Many public warehousing companies also operate a local moving and cartage service and others a motor carrier business, including long-distance moving. For some firms, revenues from motor carrier activities represent a large percentage of total receipts. Small food lockers are not included except where they may be part of a general warehousing business.

34.—Summary Statistics of the Warehousing Industry, 1954-57

Item	1954	1955	1956	1957
Companies reporting..... No.	185	195	227	234
Investment in land, warehouses, etc..... \$	47,649,107	54,275,888	62,720,201	67,205,471
Warehousing Facilities—				
Dry storage (net)..... cu. ft.	58,095,164	67,564,183	79,948,180	82,025,294
Refrigerated storage..... "	20,864,851	22,801,933	28,324,864	28,397,711
Revenue—				
Storage..... \$	12,987,959	13,423,170	15,758,690	16,800,663
Cartage and moving..... \$	13,506,767	15,470,320	18,973,054	20,927,270
Miscellaneous..... \$	8,769,871	11,158,406	14,137,787	15,487,075
Total Revenue..... \$	35,264,597	40,051,896	48,869,531	53,215,008
Operating expenses..... \$	31,320,091	36,013,753	43,799,167	48,462,389
Net Operating Revenue..... \$	3,944,506	4,038,143	5,070,364	4,752,619
Salaried employees..... No.	1,452	1,672	1,885	1,890

34.—Summary Statistics of the Warehousing Industry, 1954-57—concluded

Item		1954	1955	1956	1957
Wage-Earners—					
Regular.....	No.	5,480	5,830	6,294	5,411
Casual.....		690	880	1,112	1,212
Salaries and wages paid.....	\$	16,380,795	18,804,462	22,466,569	25,002,080
Motor Vehicles—					
Trucks.....	No.	1,525	1,595	1,850	1,922
Tractors.....	"	1	432	633	587
Semi-trailers.....	"	477	474	654	573
Trailers.....	"	94	92	77	117

¹ Included with semi-trailer units.

Customs Warehouses.—Warehouses for the storage of in-bond goods are known as customs warehouses. They are divided into seven classes: (1) those occupied by the Federal Government, some of which are used for examination and appraisal of imported goods and others, known as Queen's warehouses, used for the storage of unclaimed, abandoned, seized or forfeited goods; (2) warehouses consisting of an entire building or part thereof properly partitioned from the remainder of the building, which are used exclusively for the storage of in-bond goods consigned to the operator of the warehouse; (3) buildings or parts of buildings properly partitioned off, used for storage of in-bond goods consigned to the operator or others; (4) sufferance warehouses operated by shipping companies or airlines for the safe keeping of in-bond goods arriving by water or air before entry at customs, those operated by railway companies or express companies for landing, safe-keeping, transferring, delivering and forwarding of in-bond goods, and those operated by a person or group of persons other than those previously specified for the safe-keeping of in-bond goods before entry at customs, transported in-bond by rail, water, air or highway; (5) yards, sheds or other suitable enclosures for the storage of imported coal and coke; (6) farms, yards, sheds, etc., which an importer of horses or sheep intends to use for the feeding and pasturing of imported animals; (7) yards, sheds or other suitable enclosures which importers intend to use for the storage of goods too heavy or too bulky to be accommodated in a class 2 or 3 bonded warehouse.

Subsection 5.—Bonded Warehousing and Storage of Wines

Bonded Warehousing.—The Excise Duty Branch of the Department of National Revenue considers any premises licensed under the Excise Act to be a warehouse, whether for storage of raw materials to produce finished tobacco or cigar products or for spirits or malt used for brewing. Practically the total production of spirits is placed in bonded warehouses and only a small part of the output of beer is retained in storage. Wine, unlike spirits and beer, is not secured under bond. All imports of alcoholic beverages must go through bonded warehouses before being released to Provincial Liquor Commissions or Boards, or other agencies authorized by the Commissions or Boards to take alcoholic beverages out of bond. Similarly, tobacco, cigars and cigarettes that are not stamped and duty paid are secured in bond. In addition to these warehouses, there are those in which no manufacturing or production is carried on but which are used solely for the storage of goods upon which duty has not been paid. Goods are stored in these warehouses usually for the purpose of rapid distribution and for delivery as ships' stores.

Table 35 shows the quantities of distilled liquor, tobacco, cigars and cigarettes in bond in recent years. In addition, the year-end inventories of beer in breweries was 28,863,726 gal. in 1957; information for 1958 was not available at press date.

35.—Distilled Liquor, Tobacco, Cigars and Cigarettes in Bond, Quarterly 1954-58

Item and Quarter	1954	1955	1956	1957	1958
Distilled Liquor—					
March..... '000 pf. gal.	95,400	102,925	110,084	117,567	123,289
June..... "	97,845	105,047	112,589	120,613	125,661
September..... "	98,081	105,773	112,875	120,058	125,579
December..... "	99,477	107,084	110,651	120,371	126,057
Tobacco, Unmanufactured—					
March..... '000 lb.	217,296	229,016	213,359	199,716	197,282
June..... "	190,540	202,793	187,570	179,079	187,174
September..... "	163,155	171,272	157,964	148,881	162,040
December..... "	171,126	175,983	165,715	120,186 ¹	150,965
Cigars—					
March..... '000	3,505	2,774	2,521	2,986	2,727
June..... "	2,952	2,121	1,336	1,170	1,150
September..... "	1,867	1,359	1,145	1,126	980
December..... "	1,090	173	727	1,194	530
Cigarettes at 3 lb. or under—¹					
March..... '000	17,574	5,634	3,967	8,656	4,410
June..... "	14,612	7,512	4,966	3,247	5,341
September..... "	2,481	1,842	3,812	11,440	5,531
December..... "	3,669	3,740	2,690	8,419	6,696

¹ Excludes Newfoundland.

Beverage spirits, as shown in Table 36, refer to spirits released for consumption but not to industrial alcohol; malt beer does not include beer made from duty-free malt; malt used is the total malt used to produce the malt beer; tobacco includes all types of manufactured tobacco products and snuff.

36.—Beverage Spirits, Malt Beer, Malt, Tobacco and Tobacco Products Taken Out of Bond and Destined for Consumption, 1949-58

Year	Beverage Spirits	Malt Beer ¹	Malt Used	Cigars	Cigarettes	Tobacco
	pf. gal.	gal.	lb.	'000	'000	'000 lb.
1949.....	8,841,888	172,963,887	348,786,984	208,208	16,839,654	28,710
1950.....	9,131,903	171,974,662	340,287,033	198,981	17,167,729	29,187
1951.....	10,801,225	179,648,482	353,130,285	169,136	15,667,266	30,177
1952.....	11,171,830	195,780,017	378,764,899	200,263	17,848,325	33,637
1953.....	12,445,166	202,897,996	381,508,232	235,587	21,001,492	28,732
1954.....	11,946,178	²	370,328,106	244,248	22,113,102	26,846
1955.....	11,847,649	²	372,693,929	252,633	24,576,087	26,000
1956.....	13,733,393	²	386,064,673	255,570	26,997,705	23,272
1957.....	14,544,797 ¹	²	404,697,177	292,650	30,149,746	22,338
1958.....	15,777,160	²	385,628,053	323,124	32,402,186	23,332

¹ Duty has been paid herein on the malt.² Duty solely on gallonage basis since 1954.

Storage of Wines.—The wine industry is confined to a few localities such as the Niagara Peninsula in Ontario and the Okanagan Valley in British Columbia. Firms manufacturing native wines are not bonded, as far as the Federal Government is concerned, nor is wine in storage for maturing placed in bond. The only goods warehoused in bond in connection with wineries are sugar supplies and supplies of grape spirit distilled by the distilleries and held by the wineries for fortifying wines.

37.—Native Wine Produced and Placed in Storage for Maturing, 1951-57

Year	Ontario		Other Provinces		Total	
	gal.	\$	gal.	\$	gal.	\$
1951.....	4,182,787	2,729,147	494,288	407,849	4,677,055	3,136,996
1952.....	4,383,358	2,764,750	552,694	440,864	4,936,052	3,205,614
1953.....	3,562,498	2,237,316	572,692	430,574	4,135,190	2,667,890
1954.....	4,414,981	2,688,060	640,183	510,464	5,055,164	3,198,524
1955.....	5,059,418	3,059,868	624,670	480,491	5,684,088	3,540,359
1956.....	4,945,429	2,880,176	528,447	415,763	5,473,876	3,295,939
1957.....	4,746,998	3,151,865	656,510	437,243	5,403,508	3,589,108

Section 4.—Co-operative Organizations*

Marketing and purchasing co-operatives play an important role in the marketing of agricultural products and in the purchasing of supplies for farm people in Canada. During 1956-57, the membership of such co-operatives increased by 108,000 to a total of over 1,300,000. It is probable that the great majority of farm families in most provinces are members of one or more marketing and purchasing co-operatives, though membership is not prevalent among rural non-farm and urban families.

The number of co-operative associations and places of business declined during 1956-57 mainly as a result of amalgamations and changes in organization; total business, which amounted to \$1,126,000,000 for the year, represented a small increase over 1955-56. In both years, co-operatives accounted for 30.5 p.c. of the total value of farm products marketed in Canada. Sales of farm products by the marketing and purchasing group showed little change in 1957 over 1956, amounting to \$825,000,000 in the later year. Grains and seeds valued at \$377,000,000 made up 46 p.c. of the total value of farm products marketed and sales of livestock and dairy products together reached an almost equal amount. Eggs and poultry constituted the third largest item, with sales amounting to \$39,000,000.

Among the provinces, Saskatchewan and Alberta recorded the greatest value of produce marketed, amounting to \$224,000,000 and \$143,000,000 respectively. Grains make up a large proportion of the co-operative marketing in these two provinces. Ontario, with almost half the co-operative livestock sales, was in third place and Quebec, which markets a much larger volume of dairy products and eggs and poultry through co-operatives than any other province, was fourth.

Co-operative sales of merchandise and supplies to members amounted to \$284,000,000 in 1957, an increase of \$25,000,000 over the previous year: feed and fertilizer represented 35 p.c. of the total. In this type of business, Quebec co-operatives led the provinces with sales of \$68,000,000, followed closely by Saskatchewan and Ontario.

Members' equity in their marketing and purchasing co-operatives increased by \$15,000,000 during 1957 and an increase of \$3,000,000 was recorded in liabilities to members.

The local co-operatives are served by ten wholesale associations which are owned and controlled by their respective member co-operatives. These wholesale associations had assets amounting to \$58,000,000 in 1957, varying from \$25,000,000 for the largest to \$81,000 for the smallest. Total sales of supplies and farm products by these wholesales amounted to \$219,000,000 in 1957, a figure \$7,000,000 higher than in the previous year.

There are, in addition, numerous co-operative associations operating in various service fields, 770 of which reported their activities in 1957. These reporting associations had a total membership of 255,188 and assets amounting to \$72,325,533. Their services included provision of housing, rural electrification, medical insurance, transportation, recreation facilities, custom grinding, seed cleaning, operation of farm machinery, leasing of grazing land, restaurant operation, and other services.

* Prepared under the direction of the Deputy Minister, Department of Agriculture, Ottawa.

The data for marketing and purchasing co-operatives do not include fishermen's co-operatives. Though fishermen have formed co-operative organizations in most of the areas having a substantial fishing industry, the volume of their collective business is much smaller than that of agricultural co-operatives. In 1957 fishermen's co-operatives reported sales of fish amounting to \$17,410,337, which constituted about 9 p.c. of all fish marketed in Canada. They sold \$2,929,714 worth of supplies to their members.

38.—Summary Statistics of Co-operative Marketing and Purchasing Associations, Crop Years Ended July 31, 1948-57

Year	Associations	Places of Business	Patrons	Sales of Farm Products	Sales of Supplies	Total Business ¹
	No.	No.	No.	\$	\$	\$
1948	2,249	5,423	1,195,372	616,347,477	157,874,045	780,084,955
1949	2,378	5,667	1,209,520	783,293,225	191,804,630	982,232,002
1950	2,495	5,761	1,223,582	803,638,962	206,082,408	1,015,264,763
1951	2,348	5,830	1,195,034	769,264,824	209,985,815	988,459,832
1952	2,194	5,470	1,108,803	840,113,835	234,848,220	1,085,854,744
1953	2,221	4,987	1,081,493	874,698,323	245,629,603	1,147,590,401
1954	2,086	4,510	1,005,266	733,012,042	234,583,125	986,297,820
1955	1,949	5,016	1,087,522	704,047,067	228,446,485	941,377,889
1956	2,041	5,353	1,115,412	823,389,051	258,751,870	1,092,516,230 ⁺
1957	2,022	5,187	1,312,704	825,007,743	283,730,446	1,126,209,836
	Value of Plant	Total Assets	Liabilities to the Public	Shareholders or Members	Members' Equity	
	\$	\$	\$	No.	\$	
1948	75,009,655	201,603,705	89,381,360	1,127,229	112,222,345	
1949	89,832,908	236,962,924	106,599,688	1,144,698	130,363,236	
1950	98,514,782	254,478,777	111,092,652	1,173,126	143,386,125	
1951	99,790,191	306,834,165	159,357,602	1,184,235	147,476,563	
1952	129,983,112	410,210,309	214,737,270	1,163,803	195,473,039	
1953	117,228,290	419,930,634	234,339,211	1,195,985	185,591,423	
1954	120,928,699	418,887,674	235,993,511	1,196,426	182,894,163	
1955	126,349,756	419,387,477	229,004,480	1,199,808	190,382,997	
1956	137,673,470	463,695,625	259,027,143	1,255,788	204,668,482	
1957	144,178,668	481,911,994	262,081,345	1,363,470	219,830,649	

¹ Includes other revenue.

39.—Summary Statistics of Co-operative Marketing and Purchasing Associations, by Province, Crop Years Ended July 31, 1956 and 1957

Province and Year	Associations	Shareholders or Members	Sales of Products	Sales of Merchandise	Total Business ¹
	No.	No.	\$	\$	\$
Newfoundland.....1956	51	7,483	2,562	4,122,375	4,142,955
.....1957	49	7,614	6,498	4,574,418	4,586,232
Prince Edward Island.....1956	12	3,831	1,232,703	2,261,996	3,507,573
.....1957	19	5,363	1,639,646	3,811,644	5,500,338
Nova Scotia.....1956	98	26,551	5,595,364	13,679,087	19,680,439
.....1957	97	24,335	6,279,601	14,480,645	21,126,011
New Brunswick.....1956	50	13,036	6,839,919	6,510,151	13,441,421
.....1957	52	14,226	7,911,039	6,842,566	14,909,415
Quebec.....1956	632	94,187	80,102,476	65,823,982	148,220,918
.....1957	622	84,400	84,304,059	68,393,684	154,247,066
Ontario.....1956	306	106,074	170,516,516 ⁺	47,920,527	220,251,084 ⁺
.....1957	300	133,591	137,675,366	57,262,320	196,557,127
Manitoba.....1956	119	137,991	67,134,182	15,795,344	83,907,226
.....1957	116	132,621	74,275,439	16,728,743	92,379,853

¹ Includes other revenue.

39.—Summary Statistics of Co-operative Marketing and Purchasing Associations, by Province, Crop Years Ended July 31, 1956 and 1957—concluded

Province and Year	Associations	Shareholders or Members	Sales of Products	Sales of Merchandise	Total Business ¹
	No.	No.	\$	\$	\$
Saskatchewan.....1956	478	429,080	236,240,744	56,277,653	295,002,845
.....1957	480	559,830	224,422,096	61,073,621	289,583,433
Alberta.....1956	176	221,277	134,987,496	20,027,535	155,652,880
.....1957	159	215,318	143,851,696	21,371,263	168,059,810
British Columbia.....1956	113	51,281	55,269,730	18,629,330	75,428,928
.....1957	122	55,582	57,857,741	21,164,257	81,358,741
Interprovincial.....1956	6	164,997	65,467,359	7,703,890	73,269,961
.....1957	6	131,090	86,784,562	8,027,285	97,901,810
Totals.....1956	2,041	1,255,788	823,389,051¹	258,751,870	1,092,516,230¹
.....1957	2,022	1,363,470	825,007,743	283,730,446	1,126,209,836

¹ Includes other revenue.

40.—Products Handled by Marketing and Purchasing Co-operatives, Crop Years Ended July 31, 1956 and 1957

Product	1956		1957	
	Associations ¹	Value of Sales	Associations ¹	Value of Sales
	No.	\$	No.	\$
Marketing.....	1,010	823,389,051¹	997	825,007,743
Dairy products.....	505	153,966,741	472	166,729,939
Fruit and vegetables.....	133	31,632,954	144	29,746,187
Grain and seed.....	119	362,094,917	109	377,017,336
Livestock.....	308	186,039,127 ¹	147	199,848,542
Eggs and poultry.....	199	28,857,040	182	38,710,527
Lumber and wood.....	43	1,438,579	34	1,184,327
Honey.....	8	2,028,142	11	2,304,181
Wool.....	16	1,636,756	40	3,827,646
Fur.....	12	575,332	8	484,557
Tobacco.....	4	50,111,481	3	1,679,180
Maple products.....	3	4,136,629	1	3,043,927
Miscellaneous.....	58	871,353	79	431,394
Merchandising.....	1,602	258,751,870	1,551	283,730,446
Food products.....	798	68,172,755	792	74,967,041
Clothing and home furnishings.....	592	9,888,878	530	9,397,480
Petroleum products and auto accessories.....	608	43,777,255	591	47,414,402
Feed, fertilizer and spray material.....	864	88,986,254	861	100,272,439
Machinery and equipment.....	421	10,615,777	302	10,431,876
Coal, wood and building material.....	605	17,122,552	611	22,430,626
Miscellaneous.....	1,003	20,188,399	978	18,816,482
Totals.....	2,612	1,082,140,921¹	2,548	1,108,738,189

¹ Duplication exists in this column as some associations market produce as well as handle supplies, some associations market more than one product and some handle many of the supplies listed.

Section 5.—Interprovincial Freight Movements*

Statistics relating to interprovincial freight movements are difficult to collect owing to the absence of controls or customs barriers. Provincial freight traffic statistics are available for loadings and unloadings of goods carried by rail, water, pipeline and motor transport.

Details of railway freight movement are confined to tons loaded and unloaded by province and contain a certain amount of import and export of goods shipped by water.

* Revised in the Transportation and Public Utilities Section, Public Finance and Transportation Division, Dominion Bureau of Statistics.

Movements from 1956 onward are not strictly comparable with those of earlier years since water-borne imports at lake or ocean ports, formerly shown as receipts from foreign rail connections, are now included in domestic loadings. This change makes possible an analysis of traffic entering the country by rail from the United States, classified according to goods destined to points in Canada and goods passing through Canada. However, as railway freight tonnages in each province include freight received from and delivered to water connections, in addition to receipts from local industries, the differences between loadings and unloadings no longer reveal provincial net export and import data for railway revenue freight traffic. Consequently, statistics presented in Table 41 must not be taken as a precise measure of total interprovincial freight movement by rail; these figures indicate only the net interprovincial movement of railway freight, which is but one aspect of that trade.

For water-borne traffic, Table 42 shows tonnages of all cargoes unloaded at Canadian ports in both interprovincial and intraprovincial trade, by province of origin. The 1957 figures contain, for the first time, traffic of non-customs ports and as a result are not strictly comparable with data for 1956.

Interprovincial data for oil carried by pipeline is given in Tables 43 to 45; Table 43 shows the quantity of oil entering Canadian pipelines by province and by type of line, and Table 44 shows the quantity of oil delivered by Canadian pipelines by province and by type of line. Oil movement by pipeline between Canada and the United States is also included in Tables 43 and 44; imports for each province are shown in Table 43 and exports for each province in Table 44. Canadian crude oil re-imported by the Interprovincial Pipe Line Company through its pipeline in southern Ontario is shown separately in Table 45.

41.—Railway Revenue Freight Movement, by Province, 1956 and 1957

Province	Loaded		Received from U.S.A. Rail Connections		Totals Carried ¹	
	1956	1957	1956	1957	1956	1957
	tons	tons	tons	tons	tons	tons
Newfoundland.....	1,407,867	1,596,093	—	—	1,407,867	1,596,093
Prince Edward Island....	351,544	321,687	—	—	351,544	321,687
Nova Scotia.....	11,209,107	10,733,635	—	—	11,209,107	10,733,635
New Brunswick.....	4,831,174	4,099,210	524,193	490,200	5,355,367	4,589,410
Quebec.....	40,177,297	37,340,554	4,632,517	4,168,406	44,809,814	41,508,960
Ontario.....	46,677,845	43,746,305	25,258,817	23,596,196	71,936,662	67,342,501
Manitoba.....	7,930,723	7,180,972	692,643	672,232	8,623,366	7,853,204
Saskatchewan.....	15,702,381	13,597,132	348,120	273,339	16,050,501	13,870,471
Alberta.....	13,252,869	12,403,208	168,656	181,502	13,421,525	12,584,710
British Columbia.....	13,295,008	10,884,178	1,162,543	1,058,156	14,457,551	11,942,334
Totals.....	151,835,815	141,902,974	32,787,489	30,440,031	187,623,304	172,343,005
	Unloaded		Delivered to U.S.A. Rail Connections		Totals Terminated ¹	
	1956	1957	1956	1957	1956	1957
	tons	tons	tons	tons	tons	tons
Newfoundland.....	1,630,089	2,043,001	—	—	1,630,089	2,043,001
Prince Edward Island....	477,265	415,278	—	—	477,265	415,278
Nova Scotia.....	10,527,222	10,225,584	—	—	10,527,222	10,225,584
New Brunswick.....	5,405,343	4,592,731	991,017	737,264	6,396,360	5,329,995
Quebec.....	41,619,644	39,159,672	6,773,762	5,786,709	48,393,406	44,946,381
Ontario.....	58,468,989	52,671,529	23,851,889	22,389,903	82,300,878	75,061,432
Manitoba.....	8,371,792	7,506,345	518,302	656,691	8,890,094	8,163,036
Saskatchewan.....	5,027,541	4,568,627	1,414,329	1,162,795	6,441,870	5,731,422
Alberta.....	7,078,787	6,566,392	24,516	27,399	7,103,303	6,593,791
British Columbia.....	14,164,705	12,941,280	1,747,230	1,599,337	15,911,935	14,540,617
Totals.....	152,771,377	140,690,439	35,301,045	32,360,098	188,072,422	173,050,537

¹ Figures for freight carried and freight terminated do not agree because freight loaded within a certain year is not all unloaded within the same year.

42.—Tonnage of Cargo Loaded and Unloaded at Canadian Ports in Interprovincial Trade,
by Province, 1956 and 1957¹

Year and Province of Unloading	Province of Loading								Canada
	New- foundland	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	British Columbia, N.W.T.	
1956 ¹	tons	tons	tons	tons	tons	tons	tons	tons	tons
Newfoundland.....	463,662	14,391	896,708	12,767	120,952	34,165	—	81	1,542,726
Prince Edward Island.....	460	60	113,574	—	2,227	—	—	—	116,321
Nova Scotia.....	367,844	16,181	246,793	61,786	511,456	—	—	16,068	1,720,128
New Brunswick.....	515	10,457	439,903	89,362	417,574	—	—	2,697	960,508
Quebec.....	67,669	33,232	1,714,222	68,348	6,937,928	4,831,058	5,880	1,171	13,659,508
Ontario.....	27,457	—	1,047	—	2,419,515	12,761,947	—	—	15,209,966
Manitoba.....	—	—	—	—	80	—	123	45	248
British Columbia and N.W.T.....	3,608	—	—	—	54,230	—	—	5,789,926	5,847,764
Totals, 1956	1,431,215	74,321	3,412,247	232,263	10,463,962	17,627,170	6,003	5,809,988	39,057,169
1957 ¹									
Newfoundland.....	364,245	15,284	936,011	8,099	152,070	30,200	—	1,064	1,507,873
Prince Edward Island.....	99	31	102,781	—	714	500	—	—	104,125
Nova Scotia.....	1,052,104	23,212	260,774	54,863	413,565	—	—	638	1,805,246
New Brunswick.....	822	12,126	371,816	88,213	371,787	1,152	—	—	845,927
Quebec.....	89,170	31,514	1,807,995	67,439	7,593,482	3,768,506	325	14,189	13,372,620
Ontario.....	2,646	—	1,319	—	1,829,525	11,038,791	—	2,879	12,875,260
Manitoba.....	—	—	—	—	530	—	78	33	641
British Columbia and N.W.T.....	6,335	—	5,991	—	23,777	—	697	6,473,647	6,510,447
Totals, 1957	1,515,512	82,167	3,486,687	218,614	10,386,350	14,839,159	1,100	6,492,550	37,022,139

¹ Data not strictly comparable for both years. See text on p. 935.

43.—Oil Carried by Pipeline, by Province of Origin of Shipment or Border-Crossing Point, 1956 and 1957

Province of Origin or Entry	1956	1957
	bbl.	bbl.
Alberta— ¹		
Gathering.....	134,211,516	129,393,937
Trunk.....	6,792,480	6,207,560
Saskatchewan—		
Gathering.....	13,591,760	28,214,592
Trunk.....	178,951	3,836,288
Manitoba—		
Gathering.....	5,715,928	6,038,115
Ontario— ²		
Imports via Sun Pipe Line Co.....	6,363,060	6,105,450
Trunk—refinery products.....	24,988,391	24,444,881
Quebec—		
Imports via Montreal Pipe Line Co.....	76,801,449	81,439,690
Trunk—refinery products ³	18,091,870	19,771,646
Net Received—		
Gathering.....	153,519,204	163,646,644
Trunk.....	50,051,692	54,260,375
Imports from U.S.A.....	83,164,509	87,545,140
Totals.....	286,735,405	305,452,159

¹ Includes natural gasoline and other products.

² Oil re-imported via Interprovincial Pipe Line Company is shown in Table 45.

³ Refinery products destined for Ontario.

44.—Oil Delivered by Pipeline, by Province in which Shipment Terminated or was Transferred to Other Carriers, 1956 and 1957

Province of Termination or Delivery to other Carriers	1956	1957
	bbl.	bbl.
British Columbia—		
Trunk terminated.....	21,809,740	22,300,264
Exports via Trans Mountain Oil Pipe Line Co. ¹	25,441,901	34,234,900
Alberta— ²		
Gathering.....	5,287,068	1,344,281
Trunk.....	12,543,394	12,226,039
Saskatchewan—		
Gathering.....	1,148,177	877,700
Trunk.....	15,584,692	16,813,998
Manitoba—		
Trunk terminated.....	9,961,540	9,952,757
Exports to U.S.A. via Interprovincial Pipe Line Co.....	16,867,189	20,643,820
Exports to Ontario via Interprovincial Pipe Line Co. ³	46,515,517	46,845,164
Ontario—		
Trunk, crude.....	6,424,366	6,107,926
Trunk, refinery products.....	43,022,682	44,189,759
Quebec—		
Trunk.....	76,758,440	81,428,930
Net Delivered—		
Gathering.....	6,435,245	2,221,981
Trunk terminated⁴.....	232,620,371	239,564,837
Exports¹.....	42,309,090	54,878,720
Totals.....	281,364,706	296,965,538

¹ Includes oil delivered at dock for export.
leaving Manitoba for Ontario via U.S.A. Some of this is returned to Canada via ship from Superior, Wis. The amount returned by pipeline is shown in Table 45.

² Includes natural gasoline and other products.

³ Oil
⁴ Includes oil destined for Ontario leaving Manitoba.

**45.—Re-import and Delivery of Oil by Interprovincial Pipe Line Company in Ontario,
1956 and 1957**

Item	1956	1957
	bbl.	bbl.
Re-import.....	40,478,556	41,907,248
Delivery.....	40,478,556	41,361,725

PART II.—GOVERNMENT AIDS TO AND CONTROL OF DOMESTIC TRADE

During the postwar period, the elaborate system of government control of trade that the war effort made necessary was gradually relaxed (*see* the 1948-49 Year Book, pp. 837-841) until, by the beginning of 1949, only those measures to protect domestic requirements and prevent the forcing upward of prices in the Canadian market remained; since then even these have practically disappeared.

Section 1.—Controls Affecting the Handling and Marketing of Grain

The agencies exercising control of the grain trade in Canada include the Board of Grain Commissioners which since 1912 has administered the provisions of the Canada Grain Act, and the Canadian Wheat Board which operates under the Canadian Wheat Board Act, 1935. The former is a quasi-judicial and administrative body which, through the powers vested in it in matters of interprovincial transportation and patents and copyrights, gives the Federal Government complete power to control the handling of grain; it has no power or duties in respect of grain prices. The Canadian Wheat Board, which began to function in the autumn of 1935, was a natural outgrowth of government stabilization measures that were taken during the depression years of the 1930's in regard to the marketing of grain crops. During this period the Government acquired a considerable quantity of wheat and, in the 1935 session of Parliament, legislation was passed to serve the dual purpose of disposing of the holdings so acquired and at the same time arranging for the marketing of new crops.

An account of the organization and functions of the Board of Grain Commissioners appears in the 1941 Year Book, pp. 481-482. An article on the operations of the Canadian Wheat Board is commenced in the 1939 Year Book, pp. 569-580, and concludes in the 1947 edition. Certain information on current operations is given in Subsection 1 of Section 2 of this Chapter dealing with the Grain Trade.

Section 2.—Combinations in Restraint of Trade*

The purpose of Canadian anti-combines legislation is to assist in maintaining free and open competition as a prime stimulus to the achievement of maximum production, distribution and employment in a system of free enterprise. To this end, the legislation seeks to eliminate certain practices in restraint of trade, which serve to prevent the nation's economic resources from being most effectively used for the advantage of all citizens.

* Revised by T. D. MacDonald, Q.C., Director of Investigation and Research, Combines Investigation Act, Department of Justice, Ottawa.

The first federal legislation in this field, enacted in 1889, is still effective in amended form as Sect. 411 of the Criminal Code and is the mainstay of Canadian anti-combines legislation. Generally speaking, this Section forbids suppliers (manufacturers, wholesalers, retailers) to arrange among themselves to eliminate competition over a substantial part of any market by limiting production, restricting distribution or fixing prices.

Sect. 411 of the Criminal Code and the Combines Investigation Act (R.S.C. 1952, c. 314) are complementary pieces of legislation. The latter was enacted in 1923 and amended extensively in 1935, 1937, 1946, 1949, 1951 and 1952. It repeats in Sects. 2 and 32 some of the substance of Sect. 411 but, while the latter relates chiefly to arrangements among separate firms, the former embraces any "merger, trust or monopoly" relating to a commodity, which has operated or is likely to operate to the detriment or against the interests of the public.

The Combines Investigation Act, in Sect. 34, also forbids a supplier of goods from prescribing the prices at which they are to be resold by wholesalers and retailers, i.e., the practice of "resale price maintenance". The supplier may, however, *suggest* resale prices as long as he does nothing to induce or require the trade to adhere to them.

Sect. 412 of the Criminal Code deals with what are commonly called "price discrimination" and "predatory price cutting". It provides that a supplier may not make a practice of discriminating among those of his trade customers who come into competition with one another, by giving one a preferred price which is not available to another if the second is willing to buy in like quantities and qualities as the first; and it also forbids a supplier from selling at prices lower in one locality than in another, or unreasonably low anywhere, if the purpose or effect of his actions is to lessen competition substantially or to eliminate a competitor.

These provisions, Sects. 411 and 412 of the Criminal Code and Sects. 2, 32 and 34 of the Combines Investigation Act, contain the substantive law relating to restrictive trade practices. The other provisions of the Combines Investigation Act relate to investigation and enforcement.

The Act provides for a Director who is responsible for investigating combines and other restrictive practices, and a Commission (the Restrictive Trade Practices Commission) which is responsible for appraising the evidence submitted to it by the Director and the parties under investigation, and for making a report to the Minister. When there are reasonable grounds for believing that a forbidden practice is engaged in, the Director may obtain from the Commission authorization to examine witnesses, search premises, or require written returns. After examining all the information available, if the Director believes that it proves the existence of a forbidden practice, he submits a statement of the evidence to the Commission and to the parties believed to be responsible for the practice. The Commission then sets a time and place at which it hears argument on behalf of the Director in support of his statement; and hears argument and receives evidence on behalf of any persons against whom allegations have been made in the statement. Following this hearing, the Commission prepares and submits a report to the Minister, ordinarily required to be published within thirty days.

The Act also provides for general inquiries into restraints of trade which, while not forbidden or punishable, may affect the public interest. It further provides that the courts, in addition to imposing punishment for a contravention of the legislation, may make an order restraining persons from embarking on, continuing or repeating a contravention. The constitutionality of the Section providing for restraining orders, which was enacted in 1952, has been upheld by the Supreme Court of Canada.

In the years 1951-57, the following reports of inquiries under the legislation have been published:—

- (1) Manufacture, Distribution and Sale of Mechanical Rubber Goods; Tires and Tubes; Accessories and Repair Materials; Rubber Footwear; Heels and Soles; Vulcanized Rubber Clothing.
- (2) Distribution and Sale of Bread and Other Bakery Products in the Winnipeg Area.
- (3) Manufacture, Distribution and Sale of Fine Papers.
- (4) Distribution and Sale of Coarse Papers in British Columbia.
- (5) Purchase of Maple Syrup and Maple Sugar in the Province of Quebec.
- (6) Manufacture, Distribution and Sale of Electrical Wire and Cable Products.
- (7) Resale Price Maintenance in the Sale of Soap and Soap Products in the Montreal District.
- (8) Price Discrimination between Retail Hardware Dealers in North Bay, Ont.
- (9) Resale Price Maintenance in the Sale of Certain Household Supplies in the Chicoutimi-Lake St. John District of Quebec.
- (10) Distribution and Sale of Gasoline at Retail in the Vancouver Area.
- (11) Resale Price Maintenance in the Sale of China and Earthenware.
- (12) Resale Price Maintenance in the Distribution and Sale of Television Sets in the Toronto District.
- (13) Manufacture, Distribution and Sale of Wire Fencing in Canada.
- (14) Distribution and Sale of Coal in the Timmins-Schumacher Area of the Province of Ontario.
- (15) Loss Leader Selling.
- (16) Manufacture, Distribution and Sale of Beer in Canada.
- (17) Manufacture, Distribution and Sale of Asphalt and Tar Roofings and Related Products in Canada.
- (18) Resale Price Maintenance in the Distribution and Sale of Certain Household Appliances.
- (19) Manufacture, Distribution and Sale of Transmission and Conveyor Equipment and Related Products.
- (20) Retail Distribution and Sale of Coal in Winnipeg.
- (21) Manufacture, Distribution and Sale of Quilted Goods, Quilting Materials and Related Products.
- (22) Manufacture, Distribution and Sale of Boxboard Grades of Paperboard.
- (23) Production, Purchase and Sale of Flue-Cured Tobacco in Ontario.
- (24) The Sugar Industry in Western Canada and a Proposed Merger of Sugar Companies.
- (25) Manufacture, Distribution and Sale of Metal Culverts and Related Products.

These reports are obtainable from the Queen's Printer or from the office of the Director of Investigation and Research, Combines Investigation Act, Department of Justice, Ottawa.

Section 3.—Trade Standards*

The Standards Division of the Department of Trade and Commerce consolidates under one Director the administration of the Electricity Inspection Act, the Gas Inspection Act, the Exportation of Power and Fluids and Importation of Gas Act, the Precious Metals Marking Act, the Weights and Measures Act, and the National Trade Mark and True Labelling Act.

Commodity Standards.—On Nov. 26, 1949, Parliament passed the National Trade Mark and True Labelling Act (R.S.C. 1952, c. 191) which provides a framework for the development of the National Standard and true labelling in order to circumvent public deception in advertising. In brief, the use of the National Standard is voluntary and compliance with commodity standards affects only those manufacturers who desire to use the national trade mark. In addition, where manufacturers descriptively label any commodity or container, it must be labelled accurately to avoid public deception. The regulation applying to the labelling of fur garments, for example, has been established as a code of fair practice throughout the merchandising field.

* Prepared by R. W. MacLean, Director, Standards Division, Department of Trade and Commerce, Ottawa.

Under the terms of the Precious Metals Marking Act, 1946 (R.S.C. 1952, c. 215) commodities composed of gold, silver, platinum or palladium may be marked with a quality mark describing accurately the quality of the metal. Where such mark is used, a trade mark registered in Canada, or for which application for registration has been made, must also be applied. Gold-plated or silver-plated articles may also be marked under certain conditions outlined in the Act. The inspection staff of the Standards Division is engaged in the examination of advertising matter, in verifying the quality of articles offered for sale, and in checking the marks applied.

Weights and Measures.—The Weights and Measures Act (R.S.C. 1952, c. 292) prescribes the legal standards of weight and measure for use in Canada. The Act requires control of the type of all weighing and measuring devices used for commercial purposes and their periodic verification and surveillance directed towards the elimination of sales by short weight or short measure. The number of inspections made in the calendar year 1957 was 469,119 compared with 478,103 in 1956. The more important inspections comprised the following: weighing machines including scales of all kinds, 227,827; measuring machines for liquids, 96,350; weights, 128,848; other measures, 16,094. Total expenditure was \$966,157 in the year ended Mar. 31, 1958, compared with \$849,102 in the previous fiscal year and total revenue \$747,744 compared with \$752,196.

Electricity and Gas Inspection.—Responsibilities of the Standards Division under the Electricity Inspection Act (R.S.C. 1952, c. 94) and the Gas Inspection Act (R.S.C. 1952, c. 129) comprise the testing and stamping of every electricity and gas meter used throughout Canada for billing purposes, the object being to ensure the correct measurement of all electricity and gas sold. Canada is divided into 21 districts for administration of the two Acts and staff numbers 185. During the year ended Mar. 31, 1958, 1,191,180 electricity and gas meters were tested as compared with 1,224,752 in the preceding year. Revenue derived from the testing amounted to \$922,529 and expenditure to \$920,338.

1.—Electricity and Gas Meters in Use, Years Ended Mar. 31, 1949-58

Year	Electricity Meters	Gas Meters			
		Manufac- tured Gas	Natural Gas	Petroleum Gas	Total
	No.	No.	No.	No.	No.
1949.....	2,972,725	600,923	227,393	4,006	832,325
1950 ¹	3,188,013	606,395	239,448	3,841	849,688
1951.....	3,405,432	610,096	252,468	33	862,602
1952.....	3,590,422	609,262	263,130	68	872,465
1953.....	3,779,739	599,140	277,248	1,270	877,663
1954.....	3,967,952	593,698	298,166	429	892,297
1955.....	4,175,534	420,432	486,768	536	907,736
1956.....	4,380,889	416,338	507,875	3,151	927,364
1957.....	4,571,485	350,558	599,633	4,843	955,034
1958.....	4,748,687	67,668	944,183	4,569	1,016,420 ²

¹ Newfoundland included from 1950.

² Excludes acetylene meters included in previous years.

The Exportation of Power and Fluids and Importation of Gas Act (3-4 Eliz. II, c. 14) was passed in 1955 to replace the Electricity and Fluid Exportation Act which came into force in 1907. Under its provisions, no electric energy or fluid, whether liquid or gaseous,

may be exported from Canada and no gas imported into Canada without a licence. Total exports of electric energy during the year ended Mar. 31, 1958, amounted to 4,809,850,411 kwh. There were also exports of natural gas and crude oil as well as imports of natural gas.

Section 4.—Government Aid to Small Business

The Small Business Branch of the Department of Trade and Commerce was established in November 1958 to provide liaison between the Government and small business, to study the problems of small business, and to advise the Government on measures that should be taken to meet them. More specifically, the functions of the Branch are as follows: (a) to act as a clearing house in referring inquiries of small business to the appropriate departments of government—federal, provincial and municipal—and to other organizations and institutions; (b) to compile and distribute bulletins and reports on topics of general interest to small business, including information on government procurement; (c) to assist small business, on request, in obtaining statistical, technical and other information on management, production and marketing problems; (d) to undertake studies concerning small business, particularly for the guidance of the Government in developing new policies in this field, and as background material for dealing more effectively with the problems of small business; (e) to consult and co-operate with educational institutions, representative business associations and other private organizations.

Section 5.—Patents, Copyrights and Trade Marks*

Letters patent are issued subject to the provisions of the Patent Act (R.S.C. 1952, c. 203), effective since 1935. Applications for protection relating to patents should be addressed to the Commissioner of Patents, Ottawa.

2.—Patents Applied for, Granted, etc., Years Ended Mar. 31, 1954-58

Item		1954	1955	1956	1957	1958
Applications for patents.....	No.	18,565	19,448	21,048	21,762	22,257
Patents granted.....	"	9,414	10,282	11,862	15,513	16,261
Granted to Canadians.....	"	606	670	662	761	772
Caveats granted.....	"	288	337	289	245	242
Assignments.....	"	13,127	20,062	17,783	19,124	19,744
Fees received, net.....	\$	847,874	1,086,278	1,234,810	1,405,136	1,438,218

The number of Canadian patents granted increased fairly steadily each year from 4,522 at the beginning of the century to a peak of 16,261 in the year ended Mar. 31, 1958. Roughly, 72 p.c. of the patents granted were to residents of the United States, 10 p.c. to residents of the United Kingdom and other Commonwealth countries and 5 p.c. to residents of Canada.

Printed copies of patents issued from Jan. 1, 1948, to date are available at a nominal fee. The Canadian *Patent Office Record* gives a brief digest of each patent.

Canadian and foreign patents may be consulted at the Patent Office Library. The Library has records of British patents and abridged specifications thereof from 1617 to date, and of United States patents from 1872 to date, as well as many patents, indexes, journals and reports from Australia, New Zealand, South Africa, India, Pakistan, France, Belgium, Austria, Norway, Mexico, Italy, Sweden, the Netherlands, Switzerland, Japan, Korea and Brazil.

* The material relating to patents and copyrights was revised by J. W. T. Michel, Commissioner of Patents, and that relating to trade marks by J. P. McCaffrey, Registrar of Trade Marks, Department of the Secretary of State, Ottawa.

Copyrights, Industrial Designs and Timber Marks.—Registration of copyright is governed by the Copyright Act (R.S.C. 1952, c. 55) in force since 1921. Applications for protection relating to copyrights should be addressed to the Commissioner of Patents, Ottawa.

The Act sets out the qualifications for a copyright and its duration: "Copyrights shall subsist in Canada . . . in every original literary, dramatic, musical and artistic work, if the author was, at the date of the making of the work, a British subject, a citizen or subject of a foreign country which has adhered to the Berne Convention and the additional Protocol . . . or resident within Her Majesty's Dominions. The term for which the copyright shall subsist shall, except as otherwise expressly provided by this Act, be the life of the author and a period of fifty years after his death."

Copyright protection is extended to records, perforated rolls, cinematographic films, and other contrivances by means of which a work may be mechanically performed. The intention of the Act is to enable Canadian authors to obtain full copyright protection in Canada, in all parts of the Commonwealth, in foreign countries of the Copyright Union and in the United States of America.

Protection of industrial designs and of timber marks is afforded under the Trade Mark and Union Label Act and the Timber Marking Act. Registers of such designs and marks are kept by the Copyright Branch of the Patent Office and information regarding them is published in the *Patent Office Record*.

3.—Copyrights, Industrial Designs and Timber Marks Registered, Years Ended Mar. 31, 1954-58

Item		1954	1955	1956	1957	1958
Copyrights registered.....	No.	5,060	5,193	5,151	5,099	5,052
Industrial designs registered.....	"	560	286	586	601	665
Timber marks registered.....	"	2	10	6	9	3
Assignments registered.....	"	548	617	731	796	735
Fees received, net.....	\$	21,181	21,324	21,747	21,628	21,986

Trade Marks.—The Trade Marks Office, a Branch of the Department of the Secretary of State, administers the Trade Marks Act (1-2 Eliz. II, c. 49) which covers all legislation concerning the registration and use of trade marks and supersedes from July 1, 1954, former legislation enacted under the Unfair Competition Act, the Industrial Design and Union Label Act and the Shop Cards Registration Act. All correspondence relating to an application for registration of a trade mark or for the use of a trade mark should be addressed to the Registrar of Trade Marks, Ottawa.

A *Trade Marks Journal* is published weekly giving particulars of every registration of a trade mark and every registration of a registered user, as well as other advertisements and rulings required under the Act. The required fee payable on application for registration of a trade mark is \$25 and for registration of a person as a registered user of a trade mark, \$20.

4.—Trade Marks Registered, Years Ended Mar. 31, 1954-58

Item		1954	1955	1956	1957	1958
Trade marks registered.....	No.	3,832	3,377	2,911	3,508	3,769
Trade mark registrations assigned.....	"	2,063	2,040	2,652	1,858	3,078
Trade mark registrations renewed.....	"	1,963	2,812	2,035	2,002	3,434
Certified copies prepared.....	"	590	678	689	716	1,069
Fees received, net.....	\$	159,191	222,029	326,619	260,305	273,558

Section 6.—Subventions and Bounties on Coal*

The major problem of the Canadian coal mining industry arises from the fact that its fields are situated far distant from the main consuming markets of the Provinces of Ontario and Quebec while these markets lie in close proximity to the bituminous and anthracite fields of the United States. Transportation subventions, which have been maintained in varying degree during the past 30 years, were designed to further the movement of Canadian coals to some portions of central Canada by equalizing as far as possible the laid-down costs of Canadian coals with imported coals. Subventions have been regulated by Orders in Council; it has not been considered practicable to fix the assistance by statute because of frequent changes in the competitive situation.

5.—Expenditure for Coal Subventions, by Province, 1953-57

Province	1953	1954	1955	1956	1957
Nova Scotia..... ton	1,874,410	2,561,321	2,588,400	2,543,302	2,372,678
\$	6,101,714	8,790,557	8,355,623	6,962,694	7,087,994
New Brunswick..... ton	8,981	58,036	33,108	21,359	47,790
\$	7,853	141,513	55,925	42,214	82,770
Saskatchewan..... ton	187,118	256,597	259,518	247,814	320,500
\$	161,439	218,341	222,454	215,407	282,718
Alberta and eastern British Columbia..... ton	606,749	998,558	730,905	782,228	440,174
\$	946,638	2,982,347	2,058,942	2,375,295	1,401,767
British Columbia bunker and export..... ton	1,592	709	219	1,290	40,560
\$	1,194	532	164	1,217	87,004
Totals..... ton	2,678,850	3,875,221	3,612,150	3,595,993	3,221,681
\$	7,218,828	12,133,290	10,693,108	9,596,827	8,942,253

The Canadian Coal Equality Act (R.S.C. 1952, c. 34), which implemented one of the recommendations of the Royal Commission on Maritime Claims (1926), is designed to assist the Nova Scotia steel industry and only incidentally affects coal. It provides for the payment of 49.5 cents per ton on bituminous coal mined in Canada and converted into coke to be used in the Canadian manufacture of iron and steel. Bounties paid under this authority for the years 1953-57 were as follows:—

Item	1953	1954	1955	1956	1957
Quantity..... ton	773,102	492,196	603,134	654,620	765,352
Amount..... \$	382,685	243,637	298,551	324,037	378,849

Section 7.—Control and Sale of Alcoholic Beverages

The retail sale of alcoholic beverages in Canada is controlled by provincial and territorial government liquor control authorities. Alcoholic beverages are sold directly by most of these liquor control authorities to the consumer or to licensees for resale. However,

* Revised by G. W. McCracken, Administrative Officer, Dominion Coal Board, Ottawa. Additional information on subventions and bounties, summarized from the *Report of the Royal Commission on Coal, 1946*, is given in the 1947 Year Book, pp. 770-771.

in some provinces beer and wine are sold directly by breweries and wineries to consumers or to licensees for resale. During the year ended Mar. 31, 1957, provincial government liquor control authorities operated 730 retail stores.

Table 6 shows revenue from administration of liquor control by provincial and territorial governments. Details are given in DBS report, *The Control and Sale of Alcoholic Beverages in Canada*.

6.—Provincial Revenue from Administration of Liquor Control, Years Ended Mar. 31, 1956 and 1957

NOTE.—Figures include revenue collected directly by the provincial and territorial governments as well as revenue of the liquor authorities, but exclude revenue resulting from a general retail sales tax on alcoholic beverages imposed by five provinces.

Year and Province or Territory	Net Income from Sales ¹	Sales Tax	Licences and Permits ²	Fines and Confiscations ²	Commission on General Sales Tax Collections	Total
	\$	\$	\$	\$	\$	\$
1956						
Newfoundland.....	1,979,476	...	1,244,848 ³	20,065	3,566	3,247,955
Prince Edward Island.....	880,369	275,550	29,760	14,522	...	1,200,201
Nova Scotia.....	10,247,881	...	281,519	58,391	...	10,587,791
New Brunswick.....	7,017,419	...	14,848	22,092	17,731	7,072,090
Quebec.....	25,047,090	1,723,043	12,510,689	223,144	35,334	39,539,300
Ontario.....	38,559,862	...	15,026,761	108,380	...	53,695,003
Manitoba.....	6,565,402	...	2,185,918	83,210	...	8,834,530
Saskatchewan.....	10,085,031	...	53,328	76,513	44,249	10,259,121
Alberta.....	15,085,287	...	973,195	201,449	...	16,259,931
British Columbia.....	22,373,721	...	358,048	...	87,306	22,819,075
Yukon Territory.....	774,287 ⁴	74,111	7,537	5,212	...	861,147
Northwest Territories.....	363,691	...	23,467	555	...	387,713
Canada, 1956.....	138,979,516	2,072,704	32,709,918	813,533	188,186	174,763,857
1957						
Newfoundland.....	2,279,915	...	1,525,322 ³	18,939	3,900	3,828,076
Prince Edward Island.....	886,250	273,182	27,396	13,519	...	1,200,347
Nova Scotia.....	10,597,966	...	293,137	53,245	...	10,944,398
New Brunswick.....	7,309,575	...	17,969	24,100	18,783	7,370,427
Quebec.....	28,147,656	1,838,510	12,872,778	198,782	22,850	43,080,576
Ontario.....	43,304,705	...	15,007,779	153,195	...	58,465,679
Manitoba.....	7,469,550	...	2,105,006	84,486	...	9,659,042
Saskatchewan.....	11,044,955	...	56,331	103,826	47,506	11,252,618
Alberta.....	16,597,799	...	1,022,955	260,684	...	17,881,438
British Columbia.....	24,800,366	...	402,305	...	95,154	25,297,825
Yukon Territory.....	730,821	73,113	7,219	6,309	...	817,462
Northwest Territories.....	438,827	...	6,303	...	...	445,130
Canada, 1957.....	153,608,385	2,184,805	33,344,550	917,085	188,193	190,243,018

¹ After provision for depreciation on fixed assets or for capital expenditure met out of operating income. ² Before deducting any payments to municipalities out of liquor control authority revenue. ³ Includes \$1,164,235 in 1956 and \$1,444,587 in 1957 commission on beer sold direct from local provincial breweries to the public through licensed outlets under controlled prices.

⁴ Includes \$30,720 applicable to previous year as a result of change in inventory valuation as at Mar. 31, 1955.

Specified revenue of the Government of Canada from alcoholic beverages comprising excise duties, excise taxes, customs duties and certain fees and licences in that connection are shown in Table 7. Federal Government revenues from the general sales tax on alcoholic beverages are not available.

7.—Specified Revenue of the Federal Government from Alcoholic Beverages, Years Ended Mar. 31, 1953-57

NOTE.—Figures exclude revenue from the 10-p.c. general sales tax which is not available by commodities.

Nature of Levy	1953	1954	1955	1956	1957
	\$	\$	\$	\$	\$
On Spirits	91,186,963¹	97,255,877	99,578,038	104,546,463	114,779,730
Excise duty ²	41,058,349	49,503,239	56,281,510	61,170,329	70,341,062
Licences.....	7,750	7,500	8,000	6,500	7,750
Import duty.....	52,373,987	47,745,138	43,288,528	43,369,634	44,430,918
On Malt and Malt Products	85,996,795	83,656,336	73,948,851	80,880,028	83,221,030
Excise duty on—					
Beer.....	5,294,283 ³	4,799,823 ³	72,676,282 ⁴	80,742,806	83,077,741
Malt.....	80,584,283	78,733,288	1,151,032 ⁴	...	...
Beer licence.....	3,600	3,350	3,450	3,500	3,750
Import duty on beer.....	114,629	119,875	118,088	133,722	139,539
On Wine	3,095,441	3,216,033	3,435,853	3,643,584	3,881,292
Excise taxes.....	2,215,540	2,230,673	2,354,267	2,455,760	2,618,324
Import duty.....	879,901	985,360	1,081,586	1,157,824	1,262,968
Totals	183,279,199	184,128,246	176,962,742	189,070,075	201,882,052

¹ Includes \$746,877 validation fees, discontinued after 1953. ² Collections on liquor imported for blending purposes are included with import duty. ³ Other than malt beer. ⁴ Excise duty on malt abolished Apr. 7, 1954.

Value of Sales of Alcoholic Beverages.—The figures in Table 8 do not always represent the final retail selling price of alcoholic beverages to the consumer because, when sold to licensees, only the selling price to the licensee is known.

8.—Value of Sales of Alcoholic Beverages, Years Ended Mar. 31, 1956 and 1957

Province or Territory	Spirits		Wines		Beer		Total	
	1956	1957	1956	1957	1956	1957	1956	1957
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Newfoundland.....	4,345	4,868	373	382	8,485	9,038	13,203	14,288
Prince Edward Island.....	1,956	1,952	158	158	917	894	3,031	3,004
Nova Scotia.....	13,699	14,644	2,343	2,442	11,893	12,174	27,935	29,260
New Brunswick.....	9,396	10,169	1,711	1,662	8,602	9,072	19,709	20,803
Quebec.....	67,058	74,019	10,377	11,350	94,086	96,492	171,521	181,861
Ontario.....	115,447	127,299	13,318	14,603	149,920	150,941	278,685	292,843
Manitoba.....	14,423	16,189	1,607	1,752	21,353	22,638	37,413	40,609
Saskatchewan.....	13,443	15,057	1,913	1,957	19,617	20,752	34,973	37,766
Alberta.....	25,780	28,295	2,255	2,274	26,735	28,415	54,770	6,884
British Columbia.....	44,068	48,390	3,653	3,806	31,076	36,005	79,397	88,201
Yukon.....	1,060	1,019	72	70	858	906	1,990	1,995
Northwest Territories.....	558	704	43	49	349	362	950	1,115
Canada	311,833	342,605	37,823	40,535	373,921	387,689	723,577	770,829

PART III.—BANKRUPTCIES AND COMMERCIAL FAILURES

The two Sections of this Part, although closely related as far as subject matter is concerned, cover different aspects of the field of bankruptcies and commercial failures; thus the statistics presented in each Section are not comparable with those given in the other Section.

Section 1 is limited to the supervision, by the Superintendent of Bankruptcy, of the administration of bankrupt estates under the Bankruptcy Act (including the Farmers' Creditors Arrangement Act). This Section, however, gives definite information on the

amounts realized from the assets as established by debtors and indicates that values actually paid to creditors are invariably very much lower than such estimates alone would imply. It can therefore be assumed that this applies in even greater degree to the more extended fields covered in Section 2.

Section 2 is limited to bankruptcies and insolvencies made under federal legislation (the Bankruptcy Act and the Winding-Up Act) but does not include failures, sales or seizures carried out apart from such federal legislation. The Dominion Bureau of Statistics coverage has been revised back to January 1955 to include business failures only (*see* p. 948). The figures of assets and liabilities are estimates made by the debtor and, because they are not made uniformly, should be accepted with reservations.

Previous editions of the Year Book contained a third statistical Section dealing with bankruptcy and commercial failures compiled by Dun and Bradstreet, Inc., a mercantile agency interested primarily in credit information. Because this agency was the only source of figures of commercial failures between the years 1875 and 1919, its statistics have an added value since they present a historical series from 1915, although the basis of classification was changed after 1933. The latest information from this source appears in the 1957-58 edition of the Year Book at pp. 984-986.

Section 1.—Administration of Bankrupt Estates*

Federal insolvency legislation now comprises the Bankruptcy Act 1949 (R.S.C. 1952, c. 14), the Farmers' Creditors Arrangement Act 1943 (R.S.C. 1952, c. 111), the Companies' Creditors Arrangement Act and to some extent the Winding-Up Act. The two Arrangement Acts are designed to avert failure and the statistics in this Section and in Section 2 therefore do not include proposals or arrangements under these Acts. When such proposals or arrangements are rejected by the creditors or fail in their purpose, the proceedings may then come under the Bankruptcy Act, the bankruptcy provisions of the Farmers' Creditors Arrangement Act or, in certain circumstances, the Winding-Up Act. There are no provisions in the Companies' Creditors Arrangement Act for the liquidation or winding-up of insolvent companies.

* Prepared by the Superintendent of Bankruptcy, Ottawa. Early bankruptcy and insolvency legislation is reviewed in the 1952-53 Year Book, pp. 914-915.

1.—Assets, Liabilities, Assets Realized and Cost of Administration under the Bankruptcy Act, by Province, 1957

Province	BANKRUPTCIES UNDER GENERAL PROVISIONS OF THE ACT ¹					
	Estates Closed	Assets Estimated by Debtors	Liabilities Estimated by Debtors	Total Realization	Cost of Administration	Paid to Creditors
	No.	\$	\$	\$	\$	\$
Newfoundland.....	6	145,349	237,116	47,606	16,238	31,368
Prince Edward Island.....	—	—	—	—	—	—
Nova Scotia.....	14	575,996	1,335,841	90,640	25,747	64,893
New Brunswick.....	15	126,905	243,771	21,832	7,421	14,411
Quebec.....	1,562	11,270,426	22,815,636	3,158,488	1,267,724	1,890,764
Ontario.....	505	7,889,824	15,651,449	1,833,820	612,505	1,221,315
Manitoba.....	24	242,887	618,187	79,646	23,302	56,344
Saskatchewan.....	37	894,349	1,183,020	137,397	38,641	98,756
Alberta.....	28	1,402,459	2,008,782	404,199	72,254	331,915
British Columbia.....	64	1,540,162	2,400,684	364,477	100,870	263,607
Totals.....	2,255	21,088,357	46,491,486	6,138,105	2,164,732	3,973,373²

¹ Includes summary administration provisions of the Bankruptcy Act.

² In addition to the amount paid to creditors by the trustee, secured creditors realized direct from their security approximately \$9,916,882.

1.—Assets, Liabilities, Assets Realized and Cost of Administration under the Bankruptcy Act, by Province, 1957—concluded

Province	PROPOSALS UNDER SECTION 27(1) (a) OF THE ACT		
	Proposals Completed	Unsecured Liabilities as Estimated by Debtors	Paid to Unsecured Creditors
	No.	\$	\$
Newfoundland.....	3	92,367	42,934
Prince Edward Island.....	2	20,416	7,054
Nova Scotia.....	—	—	—
New Brunswick.....	3	83,755	19,145
Quebec.....	56	1,432,514	422,009
Ontario.....	17	764,649	322,058
Manitoba.....	—	—	—
Saskatchewan.....	—	—	—
Alberta.....	—	—	—
British Columbia.....	—	—	—
Totals.....	81	2,393,701	813,200

Section 2.—Returns under the Bankruptcy and Winding-Up Acts as compiled by the Dominion Bureau of Statistics

The statistics concerning bankruptcies and insolvencies published by the Dominion Bureau of Statistics cover only the failures coming under federal legislation, i.e., the Bankruptcy Act and the Winding-Up Act. Certain documents relating to estates administered under these Acts have, since July 1920, been forwarded to the Dominion Statistician for statistical analysis. The Bankruptcy Act of 1949 altered the administration of bankruptcies by providing for proposals from insolvent persons. Since July 1950, agreements made under this method have not been included with the statistics of bankruptcy, so that subsequent figures are not strictly comparable with those for previous years. In Table 2 the number of proposals for recent years is shown so as to give a general impression of the trend.

Recently, a major revision has been made in the compilation and presentation of commercial failures statistics by the Dominion Bureau of Statistics. Previously, although these statistics covered only failures coming under federal legislation, they included assignments of individuals. The coverage of the revised series has been limited to business failures only, excluding failures of individuals such as wage-earners, salesmen and executive personnel. This revision was extended back to January 1955.

Failures of wage-earners (which are not classed as commercial failures in the revised DBS statistics) rose substantially to 1,320 in 1957 as compared with 974 in 1956. Most of the wage-earner failures occurred in Quebec in both years, the total for that province in 1957 being 1,245.

In Table 2, bankruptcies and insolvencies for the year 1955 are given on both the old and the new bases, so as to show the extent to which the series has been altered. This practice is also followed in Tables 3 and 4.

The disparity in the number of cases closed in 1956 as compared with 1955 results from the fact that a change in the policy previously applied was made with effect from Jan. 1, 1956. Instead of considering, as heretofore, an estate closed upon the receipt of the trustees' final statement, the matter was considered as remaining under administration until discharge was granted by the court.

Two estates were reported during 1957 under the provisions of the Farmers' Creditors Arrangement Act. Of the cases under administration at the beginning of the year, three were completed in 1957.

2.—Bankruptcies and Insolvencies under Federal Legislation, by Province, 1948-57

NOTE.—Figures from 1923 are given in the corresponding table of previous Year Books beginning with the 1941 edition.

Year	Atlantic Provinces ¹	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Total
	No.	No.	No.	No.	No.	No.	No.	No.
1948.....	23	613	116	8	4	8	41	813
1949.....	19	527	131	16	5	13	55	1,066
1950.....	48	967	186	16	9	16	61	1,303
1951.....	44	1,022	227	15	13	14	64	1,399
1952.....	40	1,167	220	13	8	13	48	1,509
1953.....	30	1,221	255	27	19	33	72	1,657
1954.....	45	1,045	414	27	30	44	73	2,278
1955.....	37	1,789	436	27	39	44	76	2,448
1955 ²	36	1,180	406	27	37	42	67	1,795
1956.....	37	1,265	507	23	34	41	60	1,967
1957.....	51	1,327	640	26	34	62	58	2,198
Proposals—								
1950.....	2	66	7	1	—	—	3	79
1951.....	4	160	8	—	—	—	4	176
1952.....	1	172	15	—	—	—	3	191
1953.....	—	158	9	2	—	1	1	171
1954.....	1	416	29	4	1	1	4	456
1955.....	7	466	36	2	1	—	5	518
1956.....	9	738	49	2	—	—	14	812
1957.....	4	479	38	1	1	1	10	534

¹ Newfoundland included from 1950.
text on p. 948.

² New series not strictly comparable with previous figures; see

3.—Bankruptcies and Insolvencies under Federal Legislation, by Branch of Business, 1948-57

NOTE.—Figures from 1924 are given in the corresponding table of previous Year Books beginning with the 1942 edition.

Year	Agri- culture	Forestry, Fishing and Trapping	Mining	Manu- fac- turing	Con- struc- tion	Transpor- tation, Communi- cations and Storage	Trade	Finance and Public Utilities	Service	Not Classi- fied	Total
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
1948.....	9	4	3	188	77	30	289	4	144	65	813
1949.....	8	10	10	232	94	46	374	19	203	70	1,066
1950 ¹	24	7	5	257	97	40	502	20	273	78	1,303
1951.....	20	8	8	269	126	42	570	27	255	74	1,399
1952.....	42	2	7	305	114	45	569	32	279	114	1,509
1953.....	37	6	10	359	124	52	650	30	286	103	1,657
1954.....	48	17	15	416	135	67	973	41	408	158	2,278
1955.....	52	8	8	305	287	116	882	44	454	292	2,448
1955 ²	59	3	4	290	309	68	772	14	250	26	1,795
1956.....	45	10	3	342	375	83	782	28	246	53	1,967
1957.....	49	14	15	364	372	99	915	38	247	85	2,198

¹ Newfoundland included from 1950.
on p. 948.

² New series not strictly comparable with previous years; see text

4.—Estimated Liabilities of Bankruptcies and Insolvencies, 1948-57

Year	Atlantic Provinces ¹	Quebec	Ontario	Prairie Provinces	British Columbia	Total
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
1948.....	331	10,622	2,728	431	1,612	15,724
1949.....	189	12,842	5,222	1,117	1,985	21,356
1950.....	1,211	16,065	4,700	1,127	1,769	24,872
1951.....	947	15,958	5,919	729	2,359	25,912
1952.....	831	20,249	6,653	621	1,304	29,658
1953.....	1,692	18,022	8,270	2,841	1,993	32,818
1954.....	1,029	30,825	15,036	4,675	1,577	53,142
1955.....	1,855	33,927	16,324	4,196	2,837	59,138
1955 ²	2,248	28,746	16,299	3,939	2,548	53,776
1956.....	2,049	32,704 ^r	21,842 ^r	5,223 ^r	2,437 ^r	64,254 ^r
1957.....	1,470	30,416	30,551	5,171	2,442	70,051

¹ Newfoundland included from 1950.
on p. 948.

² New series not strictly comparable with previous years; see text

5.—Bankruptcies and Insolvencies by Industries and Economic Areas 1957, with Totals and Liabilities for 1956 and 1957

Industry	1957					Totals		Total Liabilities	
	At- lantic Pro- vinces	Que- bec	On- tario	Prairie Pro- vinces	British Colum- bia				
	No.	No.	No.	No.	No.	No.	No.	\$'000	\$'000
Agriculture.....	1	41	3	1	3	49	45	937	597
Forestry, Fishing and Trapping	—	11	3	—	—	14	10	556	190
Mining.....	—	5	6	3	1	15	3	3,455	81
Manufacturing.....	5	241	102	9	7	364	341	13,072	15,078
Foods and beverages.....	1	27	11	—	—	39	37	1,181	1,466
Textiles.....	—	2	3	—	—	5	2	347	57
Clothing.....	—	25	9	—	—	34	42	1,316	1,054
Wood products.....	1	41	19	2	4	67	49	3,475	2,922
Paper products and printing industries.....	—	19	7	—	—	26	27	724	775
Iron and steel and transportation equipment.....	1	76	30	5	2	114	110	3,949	3,472
Electrical apparatus and non- ferrous metals.....	2	12	9	—	—	23	34	608	3,418
Chemical products.....	—	2	1	—	—	3	2	95	36
Other industries.....	—	37	13	2	1	53	38	1,376	1,877
Construction.....	4	185	136	35	12	372	375	17,126	16,772
General contractors.....	2	106	75	12	7	202	187	12,693	10,457
Special trade contractors.....	2	79	61	23	5	170	188	4,432	6,314
Transportation, Communica- tions and Storage.....	1	68	24	4	2	99	83	1,430	1,035

**5.—Bankruptcies and Insolvencies by Industries and Economic Areas 1957, with
Totals and Liabilities for 1956 and 1957—concluded**

Industry	1957					Totals		Total Liabilities	
	At- lantic Pro- vinces	Que- bec	On- tario	Prairie Pro- vinces	British Colum- bia	1957	1956	1957	1956
	No.	No.	No.	No.	No.				
Trade.....	33	524	282	51	25	915	781	23,450	20,453
Food.....	10	110	40	3	2	165	174	3,279	3,047
General merchandise.....	2	25	4	8	—	39	60	612	1,509
Automotive products.....	3	22	19	4	1	49	40	1,800	1,679
Filling stations.....	1	32	15	3	1	52	25	760	203
Clothing.....	5	71	42	12	6	136	93	2,757	1,377
Shoes.....	1	7	8	—	1	17	8	342	226
Hardware and building materials.....	2	37	21	4	3	67	57	2,404	1,826
Furniture, appliances and radios.....	5	59	59	4	4	131	125	4,602	5,504
Fuel.....	—	5	4	—	—	9	15	280	286
Drugs.....	—	2	1	—	1	4	13	122	230
Jewellery.....	1	11	11	1	1	25	15	583	272
Other.....	3	143	58	12	5	221	156	5,909	4,297
Finance and Public Utilities.....	1	22	11	3	1	38	28	3,212	1,042
Service.....	3	187	47	9	1	247	244	4,686	4,951
Community.....	—	11	—	—	—	11	16	70	907
Recreational.....	1	9	6	1	—	17	15	378	592
Business.....	—	17	8	—	1	26	23	629	766
Personal.....	2	150	33	8	—	193	190	3,609	2,686
Not Classified.....	3	43	26	7	6	85	56	2,127	1,030
Totals.....	51	1,327	640	122	58	2,198	1,966	70,051	61,230

PART IV.—PRICES*

Section 1.—Index Numbers of Wholesale Prices

The term "wholesale prices" refers in this Part to sales transactions that occur below the retail level; it has more of a connotation of bulk purchase than of any homogeneous level of distribution. Ingredients for the general wholesale price index are obtained mainly from manufacturers but include prices from wholesalers proper, assemblers of primary products, agents and the other types of commercial enterprises who trade in commodities of a type or in quantities characteristic of primary marketing functions. Wholesale price indexes are grouped according to a commodity classification scheme based on chief component material similarities. In addition, indexes classified according to degree of manufacture are available. For the latter, however, because significant groups of manufactured products are not directly included, tabulations are not attempted on narrower bases than "Raw and Partly Manufactured" and "Fully and Chiefly Manufactured" commodity groups. Wholesale price indexes are regularly released in the DBS monthly publication *Prices and Price Indexes* which contains related current series on retail and security prices. Volume 23 of that publication is a historical summary reaching back to the year 1867 for some series and, together with DBS Reference Paper No. 24, *Wholesale Prices Indexes 1930-1950*, contains an explanation of index construction and meaning.

The number and identity of commodities contained in the index has been virtually fixed since 1951 when the index was placed on a 1935-39 base. Commodities were included either because they bulked large in total marketings at that time or because they were

* Revised in the Prices Division, Dominion Bureau of Statistics.

considered reliable indicators of price change for commodity groups that did. Price movements displayed by the commodities priced are combined in such a way that they influence composite indexes in the proportions of total marketings including imports and exports during the base period.

General wholesale price indexes have been calculated by most countries for many years but the question "What does a general wholesale price index measure?" cannot be given a precise answer. A retail price index can be identified with consumer expenditure, but a general wholesale index covers a much wider range; yet it is not a measure of the purchasing power of money since it does not include prices of land, labour, securities or services, except in so far as prices of these things enter into commodity prices. As a conventional summary figure its use has tended toward a reference level against which to observe the behaviour of particular price groups such as farm products, raw materials and building materials. Thus, special wholesale groupings and commodity price relatives are now considered to be of greater importance than the general index itself.

Component indexes and individual price series have numerous uses. One of the most important is in escalator contracts which contain a price adjustment clause. Other major uses include: studies of replacement and construction costs in investment projects; analysis of price movements of both individual items and commodity groups in relation to purchases and sales; industrial planning and market analysis; valuation for tax purposes and inventory analysis; and studies in changes of physical volume. They are also used by business firms abroad in connection with sales and purchases in Canada.

The general wholesale index moved up 3.2 points or 1.4 p.c. during 1958 after falling and rising uncertainly over the year from 226.1 in December 1957 to 229.3 a year later. Thus it reached a point practically unchanged from January 1957 when it stood at 229.2. From the first of 1957 a downward tendency persisted, despite some short-lived gains in early 1958, until the autumn of that year when the index rose from 227.2 in October to 229.3 at the end of the year.

Of the five major groups showing increases during 1958, the animal products group recorded the most significant gain. Higher prices for livestock, steers, fresh meats and cured meats caused this index to rise sharply from 240.1 in January to 259.8 in May. Prices fell off between May and October but losses were largely recovered at the close of the year. The non-ferrous metals group, which dropped more than 26 points in the course of a steady decline throughout 1957 and the first seven months of 1958, regained almost ten points in the last half of the year rising from 163.0 to 172.7. Higher prices for copper, tin and zinc were the main contributors. The iron and its products group remained virtually unchanged between January and October, when higher prices for scrap iron and steel moved the index to a point about 1 p.c. above that of December 1957. The chemical products group increased also, moving gradually about 1 p.c. over the year, and in December stood at 184.5 the highest point it has reached since March 1952. Vegetable products varied within narrow limits during the year, ending up at 197.9 in December 1958, less than 1 p.c. higher than December 1957.

Lower prices for raw wool and raw cotton contributed substantially to a further downward movement in the textile products group, which had been declining steadily with few exceptions since August 1957 after having risen from 234.3 to 237.8 between January and July 1957. As a result, the December 1958 index of 227.0 was 3.8 p.c. below the previous year's average of 236.0. Non-metallic minerals moved lower between March and April but remained fairly steady in the remaining months and ended the year about 1 p.c. below the previous December index. The wood products group, recovering from lower prices experienced in mid-year, reached a level of 298.5 in December, only slightly lower than the 1957 average of 299.4.

1.—Annual Index Numbers of Wholesale Price Groups 1949-58, and Monthly Indexes 1957 and 1958

(1935-39=100)

Year and Month	General Wholesale Index	Raw and Partly Manufactured Goods	Fully and Chiefly Manufactured Goods	Industrial Materials	Canadian Farm Products ¹		
					Field	Animal	Total
1949.....	198.3	197.1	199.2	218.0	191.9	265.4	228.7
1950.....	211.2	212.8	211.0	244.6	191.9	281.4	236.7
1951.....	240.2	237.9	242.4	296.1	200.4	336.9	268.6
1952.....	226.0	218.7	230.7	352.6	223.0	277.5	250.2
1953.....	220.7	207.0	228.8	332.3	179.4	263.8	221.6
1954.....	217.0	204.8	224.2	223.7	170.9	256.2	213.6
1955.....	218.9	209.7	224.5	236.0	180.1	245.1	212.6
1956.....	225.6	215.8	231.5	248.2	181.6	246.9	214.2
1957.....	227.4	209.4	237.9	240.3	169.2	258.0	213.6
1958.....	227.8	209.3	238.3	229.8	166.3	274.5	220.4
1957							
January.....	229.2	217.8	236.3	251.1	177.5	257.3	217.4
February.....	228.2	214.9	236.5	248.4	172.7	259.0	215.8
March.....	228.4	212.5	237.8	247.0	171.5	253.4	212.4
April.....	228.5	211.7	238.4	246.2	171.3	255.1	213.2
May.....	228.0	209.6	238.9	242.2	168.8	255.3	212.0
June.....	228.1	209.8	238.9	240.6	165.9	262.2	214.0
July.....	228.2	209.2	239.5	239.8	166.5	270.2	218.3
August.....	227.6	207.9	239.2	238.6	167.2	271.3	219.2
September.....	227.0	206.9	238.8	236.8	166.6	263.8	215.2
October.....	225.0	203.6	237.4	232.5	166.2	248.6	207.4
November.....	224.1	203.3	236.1	228.9	167.7	245.7	206.7
December.....	226.1	206.0	237.2	231.8	168.7	253.7	211.2
1958							
January.....	227.0	207.8	237.9	231.8	171.0	259.6	215.3
February.....	227.8	209.3	238.2	231.7	173.0	268.4	220.7
March.....	228.3	210.6	238.3	230.7	181.7	272.9	227.3
April.....	228.1	209.9	238.6	227.9	178.9	279.9	229.4
May.....	228.3	210.6	238.5	226.7	171.2	288.3	229.8
June.....	227.6	209.4	238.0	227.3	169.1	286.4	227.7
July.....	227.3	208.7	237.8	229.4	172.6	279.3	226.0
August.....	227.0	207.5	238.0	229.1	156.5	275.2	215.9
September.....	227.4	207.8	238.4	228.3	155.2	266.9	211.1
October.....	227.2	207.8	238.1	228.2	154.3	269.3	211.8
November.....	228.8	211.4	238.7	233.1	155.2	269.1	212.1
December.....	229.3	211.3	239.4	233.8	156.6	278.7	217.6

¹ Wheat prices used in this index are Canadian Wheat Board buying prices for Nos. 1, 2 and 3 Manitoba Northern at Fort William-Port Arthur. The initial payment is first used and the index revised as further payments are announced. Between August 1945 and July 1950 the price included for No. 1 Manitoba Northern was \$1.83 per bushel. For subsequent crop years the price was as follows: 1950-51, \$1.85; 1951-52, \$1.83; 1952-53, \$1.82; 1953-54, \$1.56; 1954-55, \$1.65; 1955-56, \$1.61; 1956-57, \$1.586; and 1957-58, \$1.619. For the crop year 1958-59, the index is based on an initial payment price of \$1.40. Western oats and barley were brought under control of the Canadian Wheat Board on Aug. 1, 1949. Since then prices used for the Canadian farm products index have been initial payments to farmers, with participation payments included whenever announced.

Index Numbers of Building Materials Prices.—Price movements of materials entering into building construction are currently measured by two special-purpose series: price index numbers of residential building materials and price index numbers of non-residential building materials* for which the base years are 1935-39 and 1949, respectively. Details of weighting and construction and historical series may be found in the special bulletins† prepared at the time the indexes were first published. More recently the

* Exclusive of engineering structures such as power dams, roads, railroads and bridges.

† Price Index Numbers of Residential Building Materials 1926 to 1948 and DBS Reference Paper No. 43, Non-residential Building Materials, Price Index, 1936-1952.

composite indexes have been calculated on an annual basis back to 1913; current indexes are published monthly in DBS Bulletin *Prices and Price Indexes*.

Building material prices in 1958 were slightly lower on average than in 1957 as the annual index for residential building material prices declined from 128.4 to 127.3 and the non-residential series from 130.0 to 129.8. Compared with December 1958 indexes, however, most component groups in both series were slightly higher. The strengthening of copper prices in the second half of the year was reflected in the electrical groups. Roofing materials moved down sharply to the mid-year; in the residential series subsequent partial recovery reflected increases for cedar and asphalt shingles.

2.—Annual Price Index Numbers of Residential Building Materials 1950-58, and Monthly Indexes 1957 and 1958

(1935-39=100)

Year and Month	Composite Index (1949=100) ¹	Composite Index	Principal Components								Other Materials
			Cement, Sand and Gravel	Brick, Tile and Stone	Lumber and its Products	Lath, Plaster and Insulation	Roofing Material	Paint and Glass	Plumbing and Heating Equipment	Electrical Equipment and Fixtures	
GROUP WEIGHT AS A PERCENTAGE OF TOTAL.....	...	...	42.6	18.6	11.3	7.6	5.0	5.0	3.8	3.2	2.9
1950.....	106.4	242.7	131.3	163.8	349.2	116.7	235.4	174.8	183.2	184.5	181.1
1951.....	125.5	286.2	140.9	180.7	425.0	126.3	235.8	197.8	210.4	213.3	212.7
1952.....	124.9	284.8	149.5	195.3	415.7	128.5	217.7	194.9	215.6	212.0	226.3
1953.....	123.9	282.6	151.8	205.8	410.6	128.5	218.6	203.8	209.0	211.4	229.5
1954.....	121.7	277.5	151.3	207.4	400.5	128.8	233.4	208.9	202.8	207.7	226.6
1955.....	124.3	283.4	149.4	209.5	409.4	125.3	244.5	219.7	207.2	229.2	230.3
1956.....	128.5	292.9	149.7	218.8	420.2	130.8	259.6	226.9	217.9	243.7	243.7
1957.....	128.4	292.8	153.6	223.8	415.2	136.9	253.3	225.4	227.6	209.2	253.8
1958.....	127.3	290.2	156.8	224.6	409.8	139.8	235.4	226.6	229.8	186.9	254.0
1957											
January.....	128.8	293.6	152.8	225.5	418.9	132.9	255.2	225.6	223.0	225.1	250.4
February.....	128.8	293.7	153.8	225.5	417.8	133.0	255.2	224.3	225.7	218.9	255.6
March.....	128.9	293.8	153.8	223.5	418.4	133.0	258.7	223.9	226.3	213.9	255.6
April.....	128.9	293.9	153.3	223.5	418.5	134.0	255.5	223.9	226.6	213.9	255.6
May.....	129.3	294.8	153.7	223.5	418.9	138.7	255.5	223.9	227.7	213.9	254.1
June.....	129.1	294.3	153.7	223.5	418.0	138.7	255.5	223.9	227.7	213.6	253.3
July.....	129.1	294.3	153.7	223.5	417.6	138.7	255.5	228.0	229.3	206.2	252.6
August.....	128.8	293.6	153.7	223.5	416.5	138.7	252.3	226.3	229.4	203.8	252.6
September.....	128.4	292.7	153.7	223.5	414.5	138.7	252.3	226.3	229.4	200.2	254.0
October.....	127.8	291.4	153.7	223.5	411.3	138.7	252.3	226.3	229.4	201.3	254.0
November.....	126.6	288.7	153.7	223.5	406.2	138.7	245.9	226.3	228.1	200.5	254.0
December.....	126.5	288.5	154.0	223.5	405.9	138.7	245.9	226.3	228.1	198.6	254.0
1958											
January.....	126.8	289.2	154.3	222.9	407.1	140.8	248.2	226.3	228.4	193.2	254.3
February.....	126.8	289.2	154.3	222.9	406.5	140.8	248.2	227.5	229.6	193.2	254.3
March.....	126.8	289.0	157.0	222.9	406.5	140.2	235.4	227.5	229.6	192.4	253.7
April.....	126.7	288.8	157.1	222.9	408.2	139.8	233.1	227.5	229.6	180.8	253.3
May.....	126.6	288.6	157.1	222.9	408.3	139.8	220.2	227.5	228.8	180.8	253.3
June.....	126.5	288.4	157.1	222.9	407.9	139.1	220.2	225.8	229.5	180.0	253.3
July.....	127.0	289.5	157.1	226.3	409.3	139.3	228.8	225.8	229.7	180.0	253.5
August.....	127.9	291.6	157.1	226.3	414.0	139.3	228.9	225.8	229.7	182.1	253.5
September.....	128.4	292.7	157.1	226.3	415.9	139.3	235.3	225.8	230.2	183.5	253.5
October.....	127.8	291.4	157.5	226.3	411.6	139.8	242.6	225.8	230.2	183.3	253.9
November.....	127.9	291.7	157.5	226.3	410.8	139.8	246.7	225.8	231.1	195.6	255.7
December.....	128.0	291.9	157.9	226.3	411.3	139.8	246.7	228.7	231.1	192.9	255.7

¹ Arithmetically converted to base 1949=100 for comparability with price indexes of non-residential building materials shown in Table 3.

3.—Annual Price Index Numbers of Non-residential Building Materials 1950-58, and Monthly Indexes 1957 and 1958

(1949=100)

Year and Month	Composite Index	Principal Components						
		Steel and Metal Work	Plumbing, Heating and Other Equipment	Electrical Equipment and Materials	Aggregate, Cement and Concrete Mix	Lumber and Lumber Products	Blocks, Brick and Stone	Tile
GROUP WEIGHT AS A PERCENTAGE OF TOTAL	...	20.1	21.4	11.5	11.1	10.5	9.1	3.8
							104.3	
1950.....	105.0	107.3	103.0	105.8	103.2	110.3		104.9
1951.....	118.6	122.0	115.7	111.3	128.3		113.0	110.6
1952.....	123.2	131.3	121.3	121.7	117.4	127.9		115.5
1953.....	124.4	134.7	119.2	119.6	120.2	127.8		117.1
1954.....	121.8	128.2	115.2	117.6	120.9	124.5		127.0
1955.....	123.4	129.9	118.0	121.3	120.3	127.6		120.3
1956.....	128.0	139.0	123.4	123.6	117.0	131.5		130.3
1957.....	130.0	147.7	124.1	118.4	119.4	128.7		134.0
1958.....	129.8	150.9	123.8	114.0	119.6	126.8		118.2
1957								
January.....	129.8	144.3	124.7	120.1	120.9	129.7	133.4	119.6
February.....	130.0	144.8	125.7	119.1	121.2	129.4	133.4	119.8
March.....	130.1	144.8	125.5	119.5	121.3	129.4	133.4	119.8
April.....	129.8	144.9	124.1	119.5	121.2	129.5	133.4	119.8
May.....	129.6	145.2	123.8	119.5	118.7	129.7	133.4	119.8
June.....	129.4	145.2	123.3	119.4	118.1	129.5	134.3	117.2
July.....	130.5	150.7	124.0	118.2	118.1	129.6	134.3	117.2
August.....	130.4	150.7	123.9	117.8	118.1	129.0	134.3	118.2
September.....	130.3	150.6	123.8	116.9	118.1	128.5	134.3	118.0
October.....	130.3	150.5	123.8	118.3	118.1	127.6	134.6	117.7
November.....	130.1	150.6	123.3	118.4	118.1	126.2	134.6	117.7
December.....	130.0	150.7	123.3	114.7	120.4	126.1	134.6	117.7
1958								
January.....	129.9	150.7	123.1	114.1	120.7	126.4	134.6	117.8
February.....	129.9	150.6	123.2	114.1	121.3	126.0	134.6	117.8
March.....	129.8	150.6	123.3	114.0	121.8	126.0	134.8	118.0
April.....	129.3	150.6	123.5	112.9	119.7	126.6	134.7	118.1
May.....	129.1	150.6	123.2	112.9	118.2	126.4	135.4	118.1
June.....	129.1	150.6	123.4	112.7	118.2	126.2	135.4	118.1
July.....	129.4	150.6	123.7	112.7	118.2	126.7	136.5	118.1
August.....	129.5	150.6	123.8	113.1	118.2	128.1	136.6	118.1
September.....	129.7	150.6	123.7	114.4	118.2	128.4	136.6	118.1
October.....	129.8	150.7	123.9	115.2	118.2	127.5	136.6	118.9
November.....	130.8	152.3	125.7	116.4	119.9	126.8	136.5	118.9
December.....	131.0	152.3	125.6	116.0	122.6	126.6	136.5	118.9

World Wholesale Price Indexes.—Price changes within different countries have varied widely during the years. Comparisons of Canadian wholesale price indexes and those of other countries are given in Table 4.

4.—Index Numbers of Wholesale Prices in Canada and Other Countries, 1955-57

(Base: 1953=100. Source: United Nations Monthly Bulletin of Statistics, November 1957 and 1958)

Country	1955	1956	1957	Country	1955	1956	1957
Belgium.....	101	104	106	Iran.....	115	123	123
Brazil.....	147	176	197	Israel.....	124	131	150
Canada.....	99	102	103	Korea, South.....	225	132	153
Chile.....	277	454	646	Netherlands.....	102	104	107
Denmark.....	103	106	106	New Zealand.....	100	104	105
Dominican Republic.....	95	94	103	Norway.....	104	109	113
Egypt.....	99	110	119	Sweden.....	104	108	110
France.....	98	102	108	Switzerland.....	101	103	105
Germany (Western).....	101	103	105	Turkey.....	119	139	164
Greece.....	120	129	130	United Kingdom.....	105	104	105
India.....	87	97	103	United States.....	101	104	107

Section 2.—Consumer Price Index

The consumer price index is Canada's official measure of retail price change, the fifth in a series of Canadian index numbers of retail prices dating back to 1913. The current index was introduced by the Dominion Bureau of Statistics in October 1952 in a publication entitled *The Consumer Price Index, January 1949-August 1952*. Detailed information on such aspects of the index as purpose, family coverage, base period, items included and their relative importance, is contained in this publication. It also shows the formula used in calculating the index, outlines methods of price collection and explains special features, such as methods of incorporating seasonal variations in food consumption, and changes in the price element of home-ownership costs.

Consumer Price Index Movements.—The fourteen years of almost continuous economic growth following the end of the Second World War have experienced several distinct periods of retail price behaviour, the latest of which was in evidence throughout 1958.

The gradual relaxation of price controls in 1946 combined with consumer demands far in excess of supply brought on a period of rapidly advancing prices, so that between 1946 and 1948 the consumer price index advanced more than 25 p.c. A significant exception to these general price increases was the behaviour of rents which, continuing under some degree of control, increased only 7 p.c. in the same period.

Toward the end of 1948, production appeared to be matching consumer demands and, during the slight recession of 1949, consumer prices levelled off. Between the latter months of 1948 and May 1950, retail prices increased only slightly more than 1 p.c. However, with the outbreak of war in Korea in June 1950 came a resurgence of pressure on prices and in the course of the next 18 months, further major upward movements took place. The consumer price index rose from 102.7 in July 1950 to 118.1 by December 1951, an increase of 15 p.c. Food advanced sharply from 102.6 to 122.5 or by 20 p.c. The shelter index, based on both home-ownership and rents—the latter freed from most of the wartime controls—moved from 107.4 to 118.2 or by about 10 p.c. Clothing experienced a more substantial rise of 16 p.c. from 99.1 to 115.2. Household operation, covering such items as furniture, appliances and fuel, rose about the same degree, from 101.6 to 116.4. The wide variety of goods and services covered in the other commodities and services index followed a somewhat similar pattern, moving from 102.4 to 115.0.

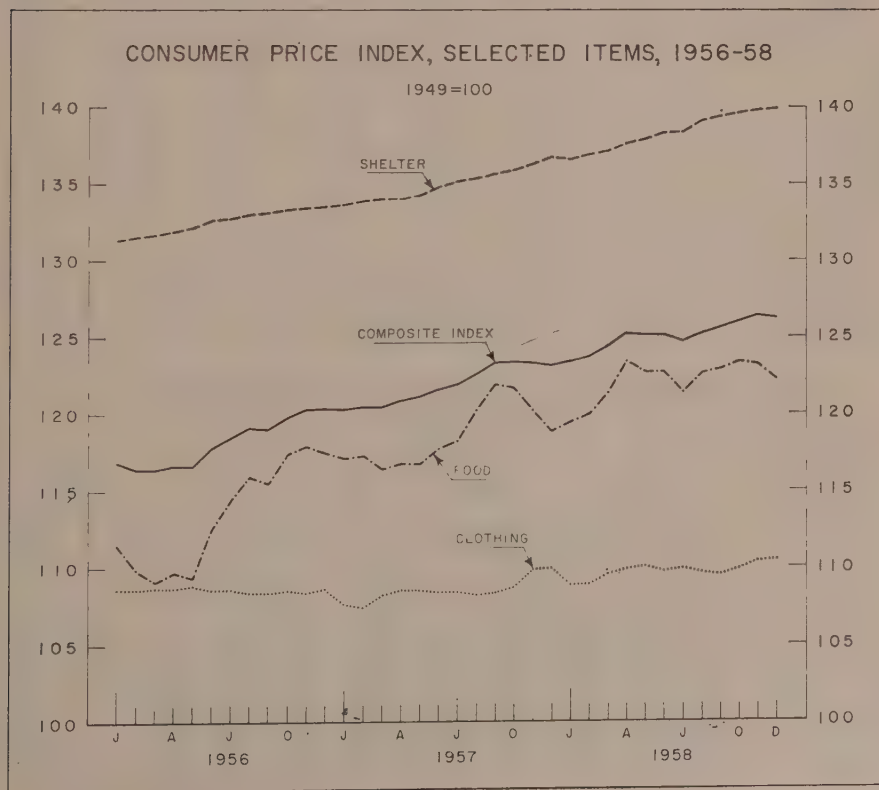
The peak in consumer price levels was reached in January 1952 when the index stood at 118.2, dropping off gradually in the first half of 1952 to reach 115.9 in May, mainly as a result of a drop of about 5 p.c. in the food index. From this point a plateau in retail prices was established which lasted for four years. Over this period, the consumer price index displayed noteworthy stability, ranging narrowly from a low of 114.4 to a high of 116.9. Though the general level of prices remained almost unchanged during this lengthy period, significant variations were taking place around a stable average. Foods recorded mostly seasonal movements during 1953, 1954, 1955 and the first half of 1956. Non-food commodities experienced a decline of about 3 p.c. in a steady gradually downward movement, much of it accounted for by appliances, which moved down 17 p.c. On the other hand, rents advanced steadily to stand 13 p.c. higher in May 1956 than in May 1952. The entire group of service items also experienced continuous increases throughout this period.

From May 1956 a distinct change occurred in price patterns. A trend toward higher prices continued throughout the remainder of 1956 and the first ten months of 1957 and the total index moved up steadily from 116.6 to a new postwar peak of 123.4 in October 1957. Food, which was the component responsible for most of the upward movement

at the total index level, rose from 109.3 in May 1956 to 121.9 by September 1957. Shelter continued to advance steadily, although at a slightly moderating rate, as did other commodities and services, particularly the service elements. In contrast, clothing prices remained practically unchanged and household operation, continuing to reflect the easy price situation of major household appliances, rose only 2.8 p.c.

The most recent period of upward movement in the consumer price index which began in mid-1956 and continued throughout 1957, persisted in 1958 but with some evidence of moderating. Over the year 1958, consumer prices averaged 2.6 p.c. above the previous year, while 1957 prices were 3.2 p.c. above 1956. In the fourth quarter of 1958 consumer prices averaged 2.4 p.c. higher than in the same period a year earlier, while the fourth quarter of 1957 saw prices 2.6 p.c. above the fourth quarter of 1956.

The consumer price index rose during the first four months of 1958 from 123.4 in January to 125.2 in April. Declines in the succeeding three months brought the index back to 124.7 in July. Further increases in the second half of 1958 took the index to a high of 126.3 in November from which point it eased slightly. All five major component groups were higher in 1958 than in 1957. The largest increase, 3.9 p.c., occurred in the other commodities and services group which includes such diverse items as medical care, new passenger cars, haircuts, and theatre admissions. Food prices in 1958 averaged 3.0 p.c. above 1957 prices compared with a rise of 4.6 p.c. in 1957 over 1956. Shelter, continuing its long uninterrupted advance, was up a further 2.6 p.c. The clothing and household operation groups were both about 1.0 p.c. higher.



5.—Annual Consumer Price Index 1950-58, and Monthly Indexes 1957 and 1958

(1949=100)

Year and Month	Food	Household Operation	Shelter	Clothing	Other Com- modities and Services	Composite Index
GROUP WEIGHT AS A PERCENTAGE OF TOTAL	31.7	17.3	14.8	11.5	24.7	100.0
1950	102.6	102.4	106.2	99.7	103.1	102.9
1951	117.0	113.1	114.4	109.8	111.5	113.7
1952	116.8	116.2	120.2	111.8	116.0	116.5
1953	112.6	117.0	123.6	110.1	115.8	115.5
1954	112.2	117.4	126.5	109.4	117.4	116.2
1955	112.1	116.4	129.4	108.0	118.1	116.4
1956	113.4	117.1	132.5	108.6	120.9	118.1
1957	118.6	119.6	134.9	108.5	126.1	121.9
1958	122.1	121.0	138.4	109.7	130.9	125.1
1957						
January	117.1	119.0	133.6	107.6	123.1	120.3
February	117.2	119.1	133.8	107.4	123.8	120.5
March	116.4	119.5	134.0	108.2	124.2	120.5
April	116.7	119.4	134.0	108.5	125.1	120.9
May	116.7	119.2	134.2	108.5	126.3	121.1
June	117.7	119.1	134.8	108.4	126.5	121.6
July	118.2	119.6	135.1	108.4	126.5	121.9
August	120.2	119.7	135.3	108.2	126.9	122.6
September	121.9	119.8	135.6	108.3	127.1	123.3
October	121.7	120.1	135.9	108.7	127.4	123.4
November	120.2	120.5	136.3	109.8	127.7	123.3
December	118.8	120.6	136.7	109.9	128.4	123.1
1958						
January	119.4	120.8	136.6	108.8	129.1	123.4
February	119.9	120.8	136.9	108.8	129.5	123.7
March	121.3	121.1	137.1	109.5	129.6	124.3
April	123.4	121.3	137.6	109.8	130.1	125.2
May	122.7	120.7	137.9	110.0	130.6	125.1
June	122.7	120.6	138.3	109.7	130.7	125.1
July	121.4	120.6	138.4	109.9	130.4	124.7
August	122.6	120.5	139.1	109.6	130.6	125.2
September	122.9	120.8	139.4	109.5	131.5	125.6
October	123.4	121.3	139.6	109.9	131.8	126.0
November	123.2	121.5	139.8	110.4	133.1	126.3
December	122.2	122.0	139.9	110.5	133.4	126.2

Table 6 provides single commodity price relatives on the base 1949=100 for a number of important foods entering into the food component of the consumer price index. It also provides a record of average prices based on the actual average level of prices prevailing in October 1952 and calculated for the other months on the basis of the price relatives.

6.—Urban Average and Relative Retail Prices of Staple Foods 1950-58, and by Month 1957 and 1958

(1949=100)

Year	Beef, sirloin, per lb.		Pork, rib chops ¹ , per lb.		Lard, pure, per lb.		Eggs, "A", fresh, per doz.		Milk, fresh, per qt.	
	Average Price	Price Relative	Average Price	Price Relative	Average Price	Price Relative	Average Price	Price Relative	Average Price	Price Relative
	cts.		cts.		cts.		cts.		cts.	
1950	82.8	117.6	63.4	99.3	22.4	95.3	56.5	91.8	18.3	102.9
1951	101.1	143.5	73.3	114.8	28.4	121.1	71.6	116.5	19.6	110.0
1952	98.4	132.7	63.2	99.0	17.0	72.5	59.1	96.0	21.1	118.4
1953	79.6	113.0	72.5	113.7	20.8	88.4	67.6	109.9	21.1	118.5
1954	77.0	109.4	66.4 ¹	116.8 ¹	26.3	112.2	57.1	92.9	21.1	118.5
1955	80.0	113.6	61.5	108.2	22.4	95.2	61.5	99.9	21.1	118.5
1956	81.6	115.9	64.4	113.2	21.8	92.9	63.2	102.7	21.2	119.1
1957	84.3	119.7	74.6	131.1	25.6	109.0	56.0	91.0	22.5	126.2
1958	94.4	134.1	72.5	127.4	24.3	103.6	57.9	94.1	23.2	130.4

¹ "Pork, fresh loins" prior to 1954.

**6.—Urban Average and Relative Retail Prices of Staple Foods 1950-58, and by
Month 1957 and 1958—concluded**

Year and Month	Beef, sirloin, per lb.		Pork, rib chops ¹ , per lb.		Lard, pure, per lb.		Eggs, "A", fresh, per doz.		Milk, fresh, per qt.	
	Average Price	Price Relative	Average Price	Price Relative	Average Price	Price Relative	Average Price	Price Relative	Average Price	Price Relative
	cts.		cts.		cts.		cts.		cts.	
1957										
January.....	82.0	116.5	72.0	126.6	25.3	107.8	52.4	85.2	22.1	124.2
February.....	81.9	116.3	72.2	126.9	25.8	109.9	50.2	81.6	22.1	124.2
March.....	81.1	115.2	72.0	126.6	26.0	110.8	50.6	82.3	22.1	124.2
April.....	82.1	116.6	70.5	124.0	26.0	110.8	50.1	81.5	22.1	124.2
May.....	84.8	120.4	70.0	123.1	26.0	110.8	50.3	81.8	22.1	124.2
June.....	86.9	123.4	77.3	136.0	25.5	108.6	50.1	81.5	22.4	125.8
July.....	87.4	124.1	79.7	140.1	25.3	107.8	53.4	86.8	22.4	125.8
August.....	87.7	124.6	82.9	145.7	25.5	108.6	63.4	103.0	22.4	125.8
September.....	87.2	123.9	83.1	146.2	25.5	108.6	65.7	106.8	22.5	126.4
October.....	84.8	120.4	74.0	130.1	25.5	108.6	64.5	104.8	23.1	129.8
November.....	81.8	116.2	69.9	122.9	25.4	108.2	64.2	104.3	23.1	129.8
December.....	83.5	118.6	71.0	124.8	25.2	107.4	67.0	92.7	23.2	130.3
1958										
January.....	87.4	124.1	70.9	124.7	25.1	106.9	54.1	88.0	23.2	130.3
February.....	89.3	126.8	71.9	126.4	24.8	105.7	50.1	81.5	23.2	130.3
March.....	90.4	128.3	71.4	125.5	24.6	104.8	55.0	89.4	23.2	130.3
April.....	93.3	132.5	72.7	127.8	24.7	105.2	56.6	92.0	23.2	130.3
May.....	95.8	136.1	72.8	128.0	24.6	104.8	53.4	86.8	23.2	130.3
June.....	97.7	138.8	77.5	136.2	24.6	104.8	54.9	89.3	23.2	130.3
July.....	96.6	137.2	77.1	135.5	24.5	104.4	62.1	100.9	23.2	130.3
August.....	96.1	136.5	77.6	136.4	24.4	104.0	58.3	94.8	23.2	130.3
September.....	95.5	135.7	70.5	124.0	24.2	103.1	65.9	107.2	23.2	130.3
October.....	96.0	136.4	70.0	123.1	23.8	101.4	63.8	103.7	23.2	130.3
November.....	96.0	136.4	68.9	121.2	23.5	100.1	63.8	103.8	23.3	130.9
December.....	98.7	140.2	68.5	120.5	23.1	98.4	56.5	91.9	23.3	130.9
	Flour, per lb.		Tomatoes, canned, 2½'s, tin		Potatoes, 10 lb.		Sugar, granulated, per lb.		Bread, per lb.	
	Average Price	Price Relative	Average Price	Price Relative	Average Price	Price Relative	Average Price	Price Relative	Average Price	Price Relative
	cts.		cts.		cts.		cts.		cts.	
1950.....	7.3	104.8	17.7	88.0	33.2	95.4	10.6	114.4	10.6	104.6
1951.....	7.5	106.9	23.1	115.0	34.8	99.9	12.0	129.8	11.7	115.5
1952.....	7.4	105.9	28.8	143.6	68.6	196.9	11.2	121.0	12.0	119.3
1953.....	7.6	108.9	24.4	121.8	39.0	111.8	10.0	107.8	12.3	121.5
1954.....	7.7	110.2	21.5	107.4	37.5	107.6	9.4	101.8	12.8	126.8
1955.....	7.4	106.4	26.3	131.3	46.8	134.5	9.2	99.7	12.8	126.4
1956.....	7.6	108.8	27.3	136.1	49.7	142.6	9.3	100.4	13.3	131.6
1957.....	7.9	113.3	29.1	144.8	42.1	120.8	12.3	133.1	14.3	141.4
1958.....	8.0	114.3	26.6	132.2	45.7	131.2	10.6	114.4	14.8	146.3
1957										
January.....	7.9	113.3	30.3	151.0	44.3	127.2	10.7	116.0	14.1	139.8
February.....	7.9	113.3	30.3	151.0	46.5	133.5	12.5	135.5	14.2	140.8
March.....	7.9	113.3	30.1	150.0	43.8	125.7	12.5	135.5	14.2	140.8
April.....	7.9	113.3	29.9	149.0	41.7	119.7	12.7	137.7	14.3	141.8
May.....	7.9	113.3	29.9	149.0	42.5	122.0	12.8	138.7	14.3	141.8
June.....	7.9	113.3	29.5	147.0	42.1	120.9	12.8	138.7	14.3	141.8
July.....	7.9	113.3	29.3	146.0	47.0	134.9	12.7	137.7	14.3	141.8
August.....	7.9	113.3	29.1	145.0	42.1	120.9	12.6	136.6	14.3	141.8
September.....	7.9	113.3	28.8	143.5	38.5	110.5	12.3	133.3	14.3	141.8
October.....	7.9	113.3	28.1	140.0	38.3	109.9	12.1	131.2	14.3	141.8
November.....	7.9	113.3	27.0	134.5	38.5	110.5	11.9	129.0	14.3	141.8
December.....	7.9	113.3	26.5	132.0	39.6	113.7	11.7	126.8	14.2	140.8
1958										
January.....	7.9	113.3	26.5	132.0	40.5	116.3	11.7	126.8	14.3	141.8
February.....	7.9	113.3	26.4	131.5	42.4	121.7	11.4	123.6	14.3	141.8
March.....	7.9	113.3	26.3	131.0	50.0	143.6	11.2	121.4	14.5	143.8
April.....	7.9	113.3	26.3	131.0	59.1	169.8	11.0	119.2	14.7	145.8
May.....	8.0	114.8	26.4	131.5	55.5	159.4	10.7	116.0	14.7	145.8
June.....	8.0	114.8	26.4	131.5	49.8	143.0	10.5	113.8	14.8	146.8
July.....	8.0	114.8	26.4	131.5	50.2	144.2	10.3	111.6	14.8	146.8
August.....	8.0	114.8	26.8	133.5	43.7	125.5	10.1	109.5	14.8	146.8
September.....	8.0	114.8	26.9	134.0	40.8	117.1	10.0	108.4	15.0	148.8
October.....	8.0	114.8	26.7	133.0	37.9	108.8	9.9	107.3	15.0	148.8
November.....	8.0	114.8	26.7	133.0	38.8	111.4	9.9	107.3	15.0	148.8
December.....	8.0	114.8	26.8	133.5	39.7	114.0	9.9	107.3	15.1	149.9

¹ "Pork, fresh loins" prior to 1954.

Consumer Price Indexes for Regional Cities.—Table 7 gives regional consumer price indexes for ten cities or city combinations. These indexes do not show whether it costs more or less to live in one city than in another and should not be used for such comparison. Their function is to measure percentage changes in retail prices—over a certain time in each city or city combination—of a fixed basket of goods and services representing the level of consumption of a particular group of families.

7.—Consumer Price Indexes for Regional Cities 1950-58, and by Month 1957 and 1958

(1949 = 100)

Year and Month	St. John's, Nfld.	Halifax, N.S.	Saint John, N.B.	Montreal, Que.	Ottawa, Ont.	Toronto, Ont.	Winnipeg, Man.	Saskatoon, Regina, Sask.	Edmonton, Calgary, Alta.	Vancouver, B.C.
1950.....	..	102.1	103.3	103.7	103.1	104.1	103.8	102.2	103.9	103.6
1951.....	..	112.1	114.1	116.1	115.3	115.4	114.6	111.7	113.5	114.3
1952.....	103.5	115.3	117.4	117.6	116.8	117.5	116.1	112.8	114.8	117.4
1953.....	102.2	113.2	115.3	116.3	115.0	116.8	114.4	113.1	114.0	116.1
1954.....	102.8	114.1	116.6	116.8	116.2	118.3	115.3	114.2	114.9	117.4
1955.....	104.2	114.8	117.7	116.9	117.2	118.8	115.9	114.6	114.6	117.9
1956.....	106.8	116.1	118.8	118.4	119.2	120.6	117.2	115.8	115.7	119.6
1957.....	109.4	119.8	122.6	121.8	123.2	125.2	120.0	119.1	118.8	122.6
1958.....	112.0	122.9	125.3	125.5	125.5	128.6	123.0	122.0	121.4	125.6
1957										
January.....	107.7	118.6	121.2	120.6	121.4	123.1	118.8	117.1	117.2	122.1
February.....	108.5	118.8	122.1	120.5	121.6	123.4	118.7	117.6	117.4	122.5
March.....	108.8	118.7	122.1	120.3	121.6	123.5	118.4	117.8	117.4	122.4
April.....	108.7	119.4	122.1	120.5	122.4	124.2	119.2	117.9	117.7	122.2
May.....	109.3	119.1	121.9	120.7	122.8	125.0	119.2	117.9	118.1	122.0
June.....	109.5	119.1	122.0	121.5	123.2	125.2	119.6	118.8	118.4	121.5
July.....	109.6	119.3	122.4	122.0	123.4	125.5	120.0	119.3	119.1	121.7
August.....	110.5	120.6	123.3	122.2	124.0	125.9	120.7	120.2	119.8	122.5
September.....	110.2	120.9	123.5	122.8	124.7	126.8	121.2	121.1	120.5	123.5
October.....	109.9	120.6	123.3	123.3	125.0	126.7	120.9	121.0	120.6	123.8
November.....	109.8	121.2	123.4	123.8	124.4	126.4	121.2	120.2	119.9	123.6
December.....	109.8	121.1	123.4	123.4	124.2	126.1	121.6	120.1	120.0	123.9
1958										
January.....	110.2	120.7	123.5	123.8	123.9	127.0	121.9	120.3	119.9	124.3
February.....	110.6	121.2	123.6	124.0	124.3	127.5	122.0	120.5	120.2	124.5
March.....	110.7	122.7	124.9	125.0	125.1	128.2	122.4	121.1	120.4	124.5
April.....	111.9	123.5	125.4	125.6	125.7	128.9	123.3	121.7	121.3	125.8
May.....	112.3	122.7	125.3	125.2	125.5	128.8	123.3	121.9	121.7	125.7
June.....	112.3	122.4	124.9	125.2	125.4	128.8	123.3	122.2	121.9	125.1
July.....	112.7	122.8	124.7	125.0	125.4	128.4	122.6	121.9	121.3	124.6
August.....	113.1	123.2	125.7	124.9	126.0	128.9	122.7	122.2	121.3	125.1
September.....	112.5	123.1	125.7	126.1	125.7	128.7	123.3	123.0	121.8	126.0
October.....	112.7	123.7	126.2	126.6	126.4	128.9	123.5	123.1	122.4	126.7
November.....	112.6	124.3	126.7	127.2	126.5	129.4	123.8	123.0	122.7	127.5
December.....	112.6	124.3	126.7	126.9	126.5	129.1	124.0	122.7	122.5	127.8

World Retail Price Indexes.—In order to place changes in Canadian retail prices in perspective with those occurring elsewhere, Table 8 provides retail price indexes for selected countries for 1956 and 1957. These indexes measure price change only within each country and should not be used to compare actual levels of living costs from country to country.

8.—Index Numbers of Retail Prices in Canada and Other Countries, 1955-57(Base: 1953=100. SOURCE: *United Nations Monthly Bulletin of Statistics*, November 1957 and 1958.)

Country	1955	1956	1957	Country	1955	1956	1957
Belgium.....	101	104	107	Iran.....	122	130	139
Brazil.....	142	173	206	Israel.....	119	127	135
Canada.....	101	102	106	Korea, South.....	231	284	350
Chile.....	302	471	627	Netherlands.....	106	108	114
Denmark.....	107	113	116	New Zealand.....	107	111	113
Dominican Republic.....	98	99	104	Norway.....	105	109	112
Egypt.....	96	98	102	Sweden.....	104	109	113
France (Paris).....	101	103	106	Switzerland.....	102	103	105
Germany (Western).....	102	105	106	Turkey.....	119	136	152
Greece.....	122	126	129	United Kingdom.....	106	112	116
India.....	90	99	104	United States.....	100	102	105

Section 3.—Index Numbers of Security Prices

Investors price indexes for common stocks are calculated on the 1935-39 base and published weekly and monthly for a sample of issues, broadly classified under the headings: industrials, public utilities and banks. Within the first category the sample is further classified by industries for which indexes are available. Weekly and monthly indexes of mining stocks including both golds and base metals are calculated and published separately, as are monthly indexes of preferred stocks.

For purposes of index calculation, Thursday closing prices are used for the issues of companies listed on either or both the Montreal and Toronto stock exchanges. Weights are applied to each issue on the basis of the number of shares currently outstanding. The list of stocks included in the various security series, currently totalling 95 for the investors index and 27 for the mining stocks index, are revised annually so that issues which have become important in stock market activity may be included and those of declining interest removed. Provision is also made for stock splits, mergers and the exercise of 'rights'. The indexes are designed to reflect weekly and monthly changes of interest to the investor rather than day-to-day changes of more speculative interest. For that reason the historical record of indexes dating back to January 1914 on a monthly basis* is of significance in any analysis of the degree of fluctuation in stock prices through time.

Investors Index.—A continuation of the strong upward trend inaugurated with the inception of the bull market in December 1953 culminated in an all-time peak in the investors total index of 291.8 in August 1956; the September 1929 peak was 197.8. Subsequent sharp declines, which brought the level to 262.3 by November 1956, were reversed in December and by May 1957 losses had been largely recouped. Prices broke sharply in mid-summer, however, and by December the composite index had reacted to 216.2 for a net loss of 19.3 p.c. over the year. The index opened 1958 at 215.4, at the bottom of a seven-month downward slide from 287.6 in May 1957. Rapid recovery in subsequent months lifted the level to 262.1 by October 1958, however, and the index closed the year at 259.1. Among major groups the January-December gains were: banks 40.6 p.c. from 233.3 to 328.0, industrials 20.1 p.c. from 222.2 to 266.8, and utilities 9.9 p.c. from 178.1 to 195.8. Sub-group advances were led by milling, foods, pulp and paper, beverages, textiles and clothing, and building materials.

* Available on request from Prices Division, Dominion Bureau of Statistics.

9.—Investors Index Numbers of Common Stocks, by Month, 1957 and 1958

(1935-39=100)

Year and Month	Industrials								Public Utilities				Banks, Total	In- vestors Com- posite Index		
	Machinery and Equip- ment	Pulp and Paper	Milling	Oils	Text- iles and Cloth- ing	Food and Al- lied Prod- ucts	Bever- ages	Build- ing Ma- terials	Indus- trial Mines	Indus- trials, Total	Trans- por- tation	Tele- phone			Power and Trac- tion	Utili- ties Total
1957																
January.....	763.0	1,005.3	147.8	251.6	163.7	181.2	506.3	463.2	228.4	287.3	363.5	118.4	227.9	207.5	289.9	273.7
February.....	756.6	946.4	141.4	244.8	154.7	181.4	488.8	433.4	211.8	276.0	343.2	116.5	228.9	203.6	271.3	263.2
March.....	790.4	966.4	134.8	246.2	153.5	182.8	485.9	438.0	218.2	281.0	364.2	115.7	239.0	209.2	266.2	267.5
April.....	825.6	997.0	138.2	262.9	153.4	197.6	490.9	453.5	225.5	294.2	385.8	114.0	243.6	212.5	277.5	278.8
May.....	888.0	996.4	155.0	278.8	157.2	204.7	516.0	470.9	223.9	304.8	397.2	113.1	251.9	216.1	279.0	287.6
June.....	882.7	998.9	141.9	275.6	161.8	208.2	514.6	482.4	217.6	303.5	401.0	107.6	264.6	216.8	281.8	286.9
July.....	832.9	991.9	137.5	274.2	162.5	204.5	506.2	483.4	214.3	301.6	398.0	105.2	262.0	213.8	277.8	284.7
August.....	863.9	915.9	135.8	245.9	160.3	195.8	485.9	458.3	182.4	272.4	364.5	104.1	237.8	200.6	260.2	259.0
September.....	728.5	861.3	126.4	225.5	155.1	189.6	466.9	424.0	172.1	252.8	343.0	103.4	219.4	191.2	252.2	242.2
October.....	641.7	813.4	118.7	195.7	145.8	183.8	459.7	384.0	156.7	228.0	306.9	100.5	165.9	176.7	234.9	219.6
November.....	600.3	792.7	122.4	195.6	144.0	188.8	475.1	377.6	119.3	226.2	284.3	102.0	201.3	176.2	240.5	218.6
December.....	587.9	809.1	120.8	194.9	151.4	198.7	482.6	373.4	151.0	224.0	272.5	102.4	198.4	173.9	234.9	216.2
1958																
January.....	570.2	796.2	120.5	187.5	148.4	206.2	490.2	384.9	153.1	222.2	282.2	104.6	202.9	178.1	283.3	215.4
February.....	570.4	832.1	133.4	184.4	145.7	212.8	509.1	396.6	155.9	223.8	285.6	108.1	207.2	182.5	245.2	218.3
March.....	609.2	840.8	129.7	184.4	157.7	217.2	513.8	415.3	158.8	228.7	290.6	107.5	208.5	183.1	237.7	221.5
April.....	599.5	802.3	129.5	186.9	166.7	219.5	511.3	417.6	150.8	224.0	288.1	105.9	205.7	181.9	238.1	218.2
May.....	566.1	818.6	141.2	203.6	162.7	233.7	547.1	433.0	154.2	235.2	299.0	105.9	208.2	183.0	238.1	227.8
June.....	570.2	855.3	143.4	218.0	159.9	243.0	562.6	455.0	162.3	246.4	315.4	107.6	212.2	187.6	266.6	237.8
July.....	560.7	885.8	145.6	225.0	156.9	251.5	564.6	466.6	166.1	253.3	321.2	108.3	214.1	189.5	275.4	248.8
August.....	631.4	936.3	146.8	228.3	159.7	254.7	587.8	479.4	172.5	261.8	324.9	109.6	225.1	194.4	280.4	251.6
September.....	651.4	936.2	152.8	225.6	174.9	252.6	608.4	486.9	176.8	264.9	340.5	109.8	230.7	198.2	287.8	250.0
October.....	703.1	955.2	176.6	224.0	180.4	260.6	623.6	493.5	185.8	272.8	349.0	108.6	230.1	197.2	305.0	262.1
November.....	684.1	1,047.4	204.6	215.3	192.5	271.8	644.9	499.2	185.4	271.2	346.6	109.0	238.6	197.7	318.0	262.0
December.....	673.1	1,043.0	199.2	210.0	191.6	279.6	635.2	494.0	180.6	266.8	341.0	108.3	226.6	195.8	328.0	259.1

Mining Stocks.—Mining stocks registered major gains during 1958 as the composite index rose 29.9 p.c. from 89.4 in December 1957 to 116.1 in December 1958. Both groups shared the advance, with golds rising 34.3 p.c. from 60.0 to 80.6 and base metals 26.0 p.c. from 156.8 to 197.5.

10.—Weighted Index Numbers of Prices of Mining Stocks, by Month, 1955-58

(1935-39=100)

Year and Month	Gold	Base Metals	Total	Year and Month	Gold	Base Metals	Total
1955				1957			
January.....	68.3	181.3	102.7	January.....	70.6	265.7	129.9
February.....	69.3	191.3	106.4	February.....	69.3	243.2	122.2
March.....	69.0	189.6	105.7	March.....	68.1	249.6	123.3
April.....	71.1	199.8	110.2	April.....	72.4	255.4	128.0
May.....	72.8	209.0	114.2	May.....	76.2	234.2	124.2
June.....	75.9	226.0	121.5	June.....	80.6	227.7	125.4
July.....	75.0	241.8	125.7	July.....	79.3	222.2	122.8
August.....	76.3	250.0	129.1	August.....	73.2	192.6	109.5
September.....	75.3	252.0	129.0	September.....	71.4	180.7	104.6
October.....	71.0	224.2	117.6	October.....	63.4	167.2	95.0
November.....	71.2	230.2	119.6	November.....	61.2	167.0	93.4
December.....	72.6	233.0	121.4	December.....	60.0	156.8	89.4
1956				1958			
January.....	75.8	238.1	125.2	January.....	64.0	154.6	91.5
February.....	76.7	235.8	125.1	February.....	68.3	157.2	95.3
March.....	79.4	260.2	134.4	March.....	67.8	161.7	96.4
April.....	78.8	269.7	136.8	April.....	69.0	155.0	95.2
May.....	78.8	268.5	136.5	May.....	72.5	160.7	99.3
June.....	76.7	273.1	136.4	June.....	73.8	173.3	104.1
July.....	79.5	291.5	144.0	July.....	72.1	174.7	103.2
August.....	79.5	301.9	147.1	August.....	74.3	179.3	106.2
September.....	74.1	282.2	137.4	September.....	73.8	182.0	106.7
October.....	72.5	273.3	133.5	October.....	74.7	205.1	114.4
November.....	68.6	262.2	127.4	November.....	77.9	208.8	117.6
December.....	68.9	267.8	129.4	December.....	80.6	197.5	116.1

Preferred Stocks.—The index of preferred stocks recovered from a weak close of 151.1 at the end of 1957 to record an over-all increase of 3.7 p.c. for 1958. Opening in January at 154.0, the index reached a peak of 163.9 in June and again in September, from which it receded to close the year at 159.8.

11.—Index Numbers of Preferred Stocks, by Month, 1949-58

(1935-39=100)

NOTE.—Figures for 1927-45 are given in the 1948-49 Year Book, p. 958, and for 1946-48 in the 1956 edition, p. 1045.

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1949.....	144.7	144.0	142.8	140.9	139.9	136.3	138.6	140.4	141.8	145.8	150.0	150.7
1950.....	152.4	153.0	153.7	154.4	157.3	158.2	154.6	155.6	158.2	161.1	161.1	160.2
1951.....	166.0	169.3	166.0	165.2	164.3	162.2	163.1	165.2	166.4	164.2	162.8	159.5
1952.....	161.4	160.6	159.5	157.2	157.2	157.7	159.8	163.6	162.4	161.2	160.3	160.7
1953.....	161.0	161.6	163.6	161.6	162.9	163.0	163.8	164.3	162.0	161.0	161.6	161.7
1954.....	162.6	163.6	165.4	168.0	169.7	170.7	171.3	173.0	173.4	174.1	175.4	175.4
1955.....	175.6	176.0	176.2	175.4	176.1	177.9	179.5	179.9	179.0	179.2	176.6	173.9
1956.....	175.5	175.3	173.6	171.1	167.7	166.2	167.5	166.1	161.7	158.7	157.0	154.4
1957.....	155.9	156.4	154.8	153.4	153.1	150.8	150.0	149.4	147.3	146.1	147.6	151.1
1958.....	154.0	156.4	157.5	158.5	161.6	163.9	162.4	163.4	163.9	162.7	162.7	159.8

CHAPTER XXI.—FOREIGN TRADE

CONSPECTUS

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NOTE.—The interpretation of the symbols used in the tables throughout the Year Book will be found facing p. 1 of this volume.

The subject of foreign trade covers more than the treatment of imports and exports of commodities, important though this is. In its broader sense foreign trade is made up of the total international exchanges of goods, services, securities and other financial exchanges, all of which are presented in their proper relationship in this Chapter. Following Part I, which is a review of Canada's trade during recent years, Part II gives detailed statistics of external commodity trade. Part III summarizes external transactions from the standpoint of the balance of international payments. Part IV outlines the various ways in which the Federal Government promotes and encourages trade relationships, and contains a brief review of the Canadian tariff structure.

PART I.—REVIEW OF FOREIGN TRADE*

The division of labour is the basic organizing principle of the modern economy and it may be as fruitfully practised among as within nations. International specialization is a clear source of economic gain; but the character it takes varies in each country according, among other things, to resource endowment, geographical situation and political attitude. Canada has hitherto found it profitable to devote a considerable proportion of its resources to production for export and thus to rely on imports, not only to provide products that are geographically alien to the country, but also to provide the products that might have been produced at greater cost by the resources devoted to the export trade. This importance of exports and imports—which accounted for 15.2 p.c. and 16.1 p.c. respectively of the gross national product in 1958—in the Canadian economy gives Canada a great interest in external economic conditions, especially in the United States and the United Kingdom, and in international institutional arrangements which might have bearing on the value, volume, composition and direction of world trade. Thus, this review will include a discussion of the international economic situation, an outline of recent trends in Canadian trade and a brief account of a recent study of the seasonal pattern of Canadian trade.

* Prepared in the External Trade Section, International Trade Division, Dominion Bureau of Statistics.

International Developments.—Wartime planning for postwar international economic co-operation was much influenced by the experience of the 1930's and the major concern was to avoid the inter-related phenomena of widespread unemployment of resources and extreme economic nationalism. In any event, the dominant characteristic of the first postwar decade was the strength and extent of growth factors and, although considerable discrimination (especially against the dollar) was necessary in international trade in the immediate postwar years, limited liberalization of trade was an early feature of co-operation and since about 1950 the non-communist world has been moving gradually toward an extensive system of multilateral and liberal trading. The recent period has had some of the characteristics of a watershed in international economic affairs and among the more important events have been the considerable reduction in world production and trade, the widespread decline in the prices of primary commodities, the decision to increase the resources of the International Monetary Fund and the International Bank for Reconstruction and Development, the Commonwealth Economic Conference, and certain institutional changes that have taken place in Europe.

World exports declined by about 3 p.c. in volume in the first nine months of 1958 and world industrial production also declined somewhat in the same period. This contrasted markedly with the considerable increases in trade and production that took place in 1955 and 1956 and the smaller increases of 1957. The declines primarily reflected the ending of the world-wide investment boom which had followed the period of readjustment at the end of the Korean war and the consequent reduction in industrial activity in the United States, Western Europe and elsewhere. In the United States where the reduction was most strongly in evidence, the recession lasted from the third quarter of 1957 to the second quarter of 1958 and in that time the gross national product fell at an annual rate of U.S. \$16,600,000,000, or by about 4 p.c. In the second half of 1958 industrial production began slowly to recover as consumer and government expenditures strengthened further and as the rate of inventory liquidation fell; by the end of the year, although there had been no marked recovery in private investment, the volume of production had regained the pre-recession level.

In contrast to what had hitherto been widely expected, the recent recession was accompanied by a decline in the foreign trade surplus of the United States. American exports, which had been exceptionally high immediately following the Suez crisis, began to decline earlier and fell more sharply than American imports which did not decline until the beginning of 1958. Since capital movements were also favourable to the remainder of the world, the period of the recession saw a very marked outflow of gold from the United States which contrasted significantly with the inflow that had been a feature of the first three quarters of 1957. Between December 1957 and June 1958 the United States gold reserve declined by almost U.S. \$2,000,000,000 and most of the corresponding increase in reserves elsewhere was concentrated in the sterling area and Western Europe.

The levelling-off in industrial production had spread to most countries in Western Europe by mid-1958 and in some countries, notably the United Kingdom and Belgium, there had been some decline. Industrial activity slowed down for a number of reasons but in volume terms the international trade of Western Europe as a whole was relatively stable. Entirely as a result of lower prices, the value totals of exports and imports for the first three quarters of 1958 were lower than for the same period of 1957.

The recent recession in commodity prices was clearly related to the decline in industrial activity in North America and Western Europe, but growth in productive capacity, changes in stock-piling policy and changes in market structure were also important factors, especially in the non-ferrous metals. Nor should it be overlooked that not all primary commodities were similarly affected and that price changes were sometimes as much caused by local as by world conditions. Among the commodities which, for one reason or another, declined in price in 1957 and 1958 as compared to 1955 and 1953 were tea, coffee, rubber, wool (in 1958), copper, lead and zinc. Fluctuations in the value of international trade in primary products usually reflect changes in price more than changes in volume; this has serious consequences for the non-industrial countries of Africa, Asia and Latin

America, many of whom are dependent on their earnings from the export of a few primary commodities for their prospect of capital accumulation and, therefore, economic development. The importance of trade in primary products to non-industrial countries and the recent recession in the prices of these products has resulted in much study of the problems involved in maintaining an equilibrium demand. Thus a committee of experts appointed by the General Agreements on Tariffs and Trade has recently concluded that the maintenance of high levels of domestic economic growth and the avoidance of cyclical fluctuations are the most important contributions the industrial countries can make to market stability and that further progress depends upon the willingness of the industrial and non-industrial countries to negotiate on a wide range of their economic and financial policies.

It has already been pointed out that the aspiration of international economic policy in the postwar period and especially since 1950 has been the creation of a multilateral and liberal trading system. This aspiration was initially inhibited by a world-wide dollar shortage which was particularly severe in Western Europe. In the immediate postwar years any attempt at free competition between the North American economy—which had, if anything, been strengthened by the War—and the economy of Western Europe—which had been ravaged by the War—would have resulted in a permanent North American trade surplus and a permanent and ultimately crippling trade deficit for Western Europe. Thus, by general agreement, the promotion of recovery and multilateral trading within Western Europe was recognized as a prerequisite to more general liberalization. Although there is still some authoritative opinion that, mainly from structural differences between the North American and European economies, the dollar shortage is a long-run problem,* the majority belief is increasingly that the West European economy is now sufficiently competitive (as measured by the high degree of liberalization that has already taken place in trade with dollar countries) and the West European reserve position sufficiently strong to permit of further general freeing of trade and payments.

It is, of course, recognized—the more so because of the disastrously premature attempt to make sterling convertible in 1947—that since multilateral trading requires free convertibility of currencies any move toward free trade should be associated with a high degree of international liquidity. This is part of the reason for the decision taken in October 1958 to increase the resources of the International Monetary Fund and the International Bank for Reconstruction and Development. More generally, it has been felt that the world's gold and dollar reserves, which represented some 93 p.c. of the value of world imports in 1950 but only about 58 p.c. of the value of world imports in 1957, were increasingly inadequate in the face of the growing volume of international trade; and coming, as it does, at the end of what has been an active period for the IMF, the increase in resources is intended to increase the ability of the Fund to render emergency assistance to individual countries.

In December 1958 the United Kingdom, Norway, Sweden, Denmark, the Benelux countries, France, Italy and the Federal Republic of Germany announced simultaneously that their currencies had been made externally convertible, and early in January 1959 the Federal Republic of Germany announced that the convertibility of the mark had been made virtually complete. The European Payments Union (which had been an important instrument of European trade liberalization from 1950) was disbanded at the same time and replaced by the European Monetary Agreement under which inter-European settlements will probably take place mostly through the free exchange markets. External convertibility is still something short of full convertibility, in that it applies only to non-residents and to moneys earned in current transactions, and (especially for sterling) the recent announcements do little more for residents of the dollar area than formalize a *de facto* situation; but the move toward external convertibility is nevertheless noteworthy for its implicit promise of further reductions in the surviving restrictions on dollar trade and as an important step in the direction of full convertibility.

Within the general desire to establish a multilateral trading system, there has been in the postwar period a strong European desire for some form of European integration. This aspiration has complex political, social and economic roots and found its latest economic expression in the formation of the European Economic Community (EEC) which

came into being on Jan. 1, 1958, and is comprised of the Benelux countries, France, Italy and the Federal Republic of Germany. The Community is intended eventually to be a customs union in which tariffs among the participating countries will be abolished and a common commercial policy applied to countries outside the union. The six countries took the first commercial step toward the establishment of their common market at the beginning of 1959 when they accorded to each other a 10-p.c. reduction in tariff levels on a wide range of commodities and a 20-p.c. increase in total quotas. The tariff concessions have been extended on a one-year basis to all GATT countries including, therefore, Canada.

Canada has great interest in the move towards more multilateral trading and in the European developments. The existence of discrimination against the dollar is of particular concern because of its effect on the Canadian position in the Commonwealth; the European developments are of importance both in themselves and in the related proposals to associate the United Kingdom and other members of the Organization for European Economic Co-operation with the six members of the EEC. It was against this background that the Commonwealth Economic Conference was held in Montreal in September 1958. The Conference considered methods of increasing aid to the less developed members of the Commonwealth, proposed an increase in inter-Commonwealth trade (partly by reducing dollar discrimination), and foreshadowed further moves toward the convertibility of sterling.

1.—World Trade, by Leading Countries, 1956 and 1957

Sources: International Monetary Fund, *International Financial Statistics*, September 1958; and United Nations Statistical Office, *Population and Vital Statistics Reports*, Series A, Vol. X, Nos. 2 and 3.

Country	1956			1957			Population mid-1957	Trade per Capita	
	Exports f.o.b.	Imports c.i.f.	Total Trade	Exports f.o.b.	Imports c.i.f.	Total Trade		1956	1957
	U.S. \$ '000,000	U.S. \$ '000,000	U.S. \$ '000,000	U.S. \$ '000,000	U.S. \$ '000,000	U.S. \$ '000,000		U.S. \$	U.S. \$
United States.....	19,097	13,751	32,848	20,821	14,174	34,995	176,058	192 ¹	199 ¹
United Kingdom.....	9,290	10,881	20,171	9,684	11,412	21,096	51,712	392	408
Germany, Federal Republic.....	7,358	6,617	13,975	8,575	7,499	16,074	54,012	260	298
Canada.....	5,288	6,270	11,558	5,467	6,346	11,813	16,589	719	712
France.....	4,541	5,558	10,099	5,111	6,170	11,281	44,220	232	255
Netherlands.....	2,863	3,725	6,588	3,098	4,105	7,203	11,095	605	649
Japan.....	2,501	3,230	5,731	2,858	4,284	7,142	91,200	64	78
Belgium and Luxembourg...	3,162	3,272	6,434	3,186	3,432	6,618	8,936	697	741
Italy.....	2,145	3,174	5,319	2,540	3,626	6,166	48,353	110	128
Sweden.....	1,945	2,209	4,154	2,137	2,424	4,561	7,369	568	619
Venezuela.....	2,116	1,249	3,365	2,366	1,868	4,234	6,224	565	680
Australia.....	1,887	1,964	3,851	2,203	1,932	4,135	9,643	408	429
World Total².....	93,610	98,117	191,727	100,300	107,309	207,609	1,519,000	106	114

¹ Includes military aid extended to other countries.

² Excludes China, Union of Soviet Socialist Republics, and the communist countries of Eastern Europe (except Yugoslavia).

Canadian Trade in Recent Years.—Since 1954 Canada has ranked fourth, in terms of value of total trade, among the leading trading nations of the world, following the United States, the United Kingdom and the Federal Republic of Germany. On a per capita basis, reflecting the great importance of foreign trade to the Canadian economy, Canada normally holds first or second place and in 1957 was second to Belgium and Luxembourg.

Canadian trade in recent years has largely reflected the development of the domestic economy and consequently increased very rapidly in 1955 and 1956, declined slightly in 1957 and again, to a somewhat greater extent, in 1958. In 1955 and 1956 Canadian natural resources and basic industries were developed greatly and imports, especially of iron and steel goods, rose sharply to provide the necessary equipment and to supplement scarce domestic resources. The higher volume of exports also reflected the intensive resource development and included, for example, increasingly significant quantities of iron ore, uranium and petroleum. In 1957, as foreign markets lost some of their earlier buoyancy, the creation of new capacity in the resource and basic industries was reduced; imports, especially in the iron and steel group, also levelled off but exports, as a result of mixed changes in the main groups, increased somewhat. In 1958, exports declined but little while imports were reduced by some 8 p.c. The import balance, which, reflecting the pattern and pace of Canadian economic growth, had been a record \$840,000,000 in 1956 and had declined to \$689,000,000 in 1957, was further reduced in 1958 to \$267,600,000. The gross national product was little changed in volume in 1958; as the liquidation of business inventories and the reduction in business outlays for plant and equipment were major factors in holding the gross national product close to its former levels, the reduction in imports was again most marked among iron and steel goods. The relative stability of the export total was the most remarkable feature of Canadian trade in 1958 and the high level was largely maintained by very considerable increases in a limited number of commodities, notably uranium, aircraft, wheat and beef cattle.

The aggregate increase in the exports of these four export items amounted to \$326,000,000, which was almost 7 p.c. of the export total. Uranium exports, which are made under long-term contract and mostly to the United States (although significant quantities were shipped to the United Kingdom in 1958), increased by about \$149,000,000 or about 116 p.c. Exports of aircraft, which tend from their nature to move irregularly from year to year, were up by about \$69,000,000 to a total more than one and a half times greater than in 1957—mainly because of large shipments of military aircraft to Belgium and the Federal Republic of Germany. Wheat exports, which ranked second in value among leading commodities, increased by \$66,000,000 or about 17 p.c. Higher sales in regular commercial markets, particularly the United Kingdom, contributed to the increase as did Canadian-financed shipments to India and Pakistan, shipments to the Soviet Union in part fulfillment of a trade agreement signed early in 1956, and unusually large shipments to Communist China.

2.—Summary Statistics of Canadian Trade, 1954-58

Item	1954	1955	1956	1957	1958	Change	
						1956 to 1957	1957 to 1958
	\$'000,000	\$'000,000	\$'000,000	\$'000,000	\$'000,000	p.c.	p.c.
Value of Trade—							
Domestic exports.....	3,881.3	4,281.8	4,789.7	4,839.1	4,830.2	+ 1.0	- 0.2
Re-exports.....	65.6	69.5	73.4	95.3	98.1	...	...
Imports.....	4,093.2	4,712.4	5,705.4	5,623.4	5,192.4	- 1.4	- 7.7
Total Trade.....	8,040.1	9,063.7	10,568.6	10,557.8	10,120.7	- 0.1	- 4.1
Trade balance.....	-146.3	-361.1	-842.3	-689.0	-264.0	...	...
Price Indexes (1948=100)—							
Domestic exports.....	115.1	117.7	121.4	121.3	120.6	- 0.1	- 0.6
Imports.....	109.5	110.5	113.0	116.4	116.5	+ 3.0	+ 0.1
Volume Indexes (1948=100)—							
Domestic exports.....	109.6	118.3	128.3	129.8	130.5	+ 1.2	+ 0.5
Imports.....	141.0	160.3	190.0	182.5	168.3	- 3.9	- 7.8

In terms of commodity groups, exports of agricultural and vegetable products, animals and animal products, non-ferrous metals, chemicals and miscellaneous commodities were all higher in value in 1958 than in 1957. Lower export values were recorded for fibres, textiles and products, wood, wood products and paper, iron and its products and non-metallic minerals. Notwithstanding a small decline, forest products were still the largest commodity group by a considerable margin and accounted for about 30 p.c. of the total. Newsprint paper, the leading export commodity, declined by somewhat more than the group as a whole and most other leading commodities in this group, with the exception of planks and boards and shingles, also declined. Non-ferrous metals accounted for more than 20 p.c. of the export total and as a group were second in importance only to forest products. An increase of some 3 p.c. in the group total was largely accounted for by higher exports of uranium, the increase in which more than offset declines in exports of aluminum, brass, copper, lead, nickel and zinc. Agricultural products increased by about 7 p.c. and were responsible for something under 20 p.c. of the total. Increases in exports of wheat, wheat flour, barley, fruit and vegetables more than compensated for considerable reductions in the export of oil cake, vegetable oils and seeds. The increase in the export of aircraft was sufficient to raise the total of miscellaneous commodities as a whole and the higher level of cattle exports was reflected in the 32-p.c. increase in animals and animal products. A significant increase in the export of fish also contributed to the latter and was caused mainly by the combination of an unusually large catch of salmon and the removal of British quota restrictions thereon.

Among the groups that declined, the largest absolute and relative reductions were recorded for iron and steel goods and for non-metallic minerals. The decline in the iron group was widespread but was most influenced by a reduction of about one-third in the export of iron ore (by far the most important commodity in the group) and would have been greater but for an increase of some 28 p.c. in the export of farm implements and machinery. Exports of petroleum and products, the leading category among non-metallic minerals, were more than halved and this contributed greatly to the over-all reduction. In this group there were also marked declines in exports of asbestos and abrasives, and the only significant increase was in gas exported by pipeline.

Most import groups declined in 1958 as compared with 1957. The largest relative and absolute decline was recorded in iron and steel goods, which nevertheless formed the dominant group and accounted for more than one-third of all imports. Non-farm machinery, the leading import category which was responsible for about one-quarter of all iron and steel imports, was particularly affected and declined by about one-sixth as a reflection of the domestic economic situation. Other leading commodities in this group which were also significantly affected by the decline were rolling-mill products, pipes, tubes and fittings, iron ore and farm implements and machinery. Non-metallic minerals, second in importance to iron and steel goods, were reduced by around 14 p.c. mainly as a result of considerable reduction in imports of petroleum products and coal. Significant increases in fruit and cocoa imports were not quite sufficient to offset declines in the imports of other agricultural and vegetable products, particularly of sugar, coffee and rubber. The only import groups to increase in 1958 were animals and animal products, wood, wood products and paper, and miscellaneous commodities.

Imports of fibres and textiles were reduced in value mainly as a result of a fall in the imports of raw wool (which was greatly reduced in price) and wool products. Among non-ferrous metals the most significant decline was in imports of electrical apparatus, but imports of aluminum products, precious metals (except gold) and clocks and watches were also reduced. Imports of a wide range of chemical products declined and the reduction in the group total would have been greater but for an increase in imports of plastics. Of the three commodity groups for which an increase was recorded in 1958, animals and animal products, and wood, wood products and paper are not greatly significant in the import total; miscellaneous commodities, which accounted for about 10 p.c. of all imports, comprise a very heterogeneous selection. The increase in all three groups was relatively small.

The United States has long been Canada's leading trading partner and in 1958 was responsible for 64.1 p.c. of the total trade—59.1 p.c. of the export total and 68.8 p.c. of the import total; the total compared with 59.2 p.c. in 1956 and 59.6 p.c. in 1957. The United Kingdom ranks second to the United States, in 1958 accounting for 15.9 p.c. of the export total, 10.1 p.c. of the import total and 12.9 p.c. of total trade. The United Kingdom's share in total trade was somewhat higher than it had been in 1957 when the percentage was 15.0. The European share of Canadian trade was also higher in 1958 rising to 8.9 p.c. from 8.2 p.c. in 1957, but that of Latin America decreased slightly to 5.2 p.c. from 5.8 p.c. The Commonwealth share was 5.0 p.c. compared with 4.6 p.c. in 1957 and that of all other foreign countries advanced slightly to 3.9 p.c. from 3.7 p.c.

Seasonal Pattern of Canadian Trade.*—One of the more interesting and important uses of the trade statistics is as an indicator of general economic development. When the statistics are thus used the major concern is usually to ascertain whether exports and imports are in some basic sense rising or falling, but this, for periods of less than one year, may give rise to problems of judgment and statistical theory. What looks at first sight to be a change in trend may be no more than a seasonal fluctuation and a systematic attempt to follow and project trade trends is probably most efficiently made in conjunction with an equally systematic attempt to identify seasonal factors and subsequently to adjust the raw data. But problems arise, for example, because of the fact that seasonal factors do not exist in a vacuum and because there is never any guarantee that existing conditions will continue sufficiently unaltered in the future to warrant projection based on past trends. However, whatever the prospects for successful measurement of seasonal influences, their importance in Canadian trade cannot be questioned and a simple knowledge of what the seasonal pattern of Canadian trade has been in the postwar period is helpful to an understanding of the trade statistics.

Studies have been made of the seasonal pattern of Canadian trade in the postwar period (the first in 1953, the second in 1954 and the most recent in 1958), all three of them based on relatively simple statistical techniques and confined to a positive attempt to evaluate what had happened in the past. Although the latest study found some evidence of structural changes in Canadian trade (reflected, for example, in the increasing importance of exports of petroleum, iron ore, uranium and other non-ferrous metals) that may subsequently alter the seasonal pattern, it was concluded that the results of the study did reasonably well as a general indication of how the annual trade flows have been distributed among the different months and quarters in the postwar period.

The more obvious seasonal factors in Canadian trade are the importance of agricultural products, the effect of climate on transportation and other forms of economic activity, and the fact that consumer demand is regularly heavier at some times of the year than at others. On the basis of the quarterly calculations—which for a number of reasons are more reliable than the monthly averages—Canadian imports are at their lowest in the first quarter when, from difficulties of transportation and a decline in demand, they run regularly at 5 p.c. to 10 p.c. below what they would be if the annual flow of imports were distributed evenly among the four quarters. In the second quarter, with improved transportation and higher demand, imports are at their highest, at 5 p.c. to 10 p.c. above normal. Imports tend to be somewhat below normal in the third quarter and to be somewhat above normal in the fourth quarter.

Domestic exports, again reflecting the influence of transportation problems, are from 8 p.c. to 12 p.c. below normal in the first quarter, rising sharply to somewhat above normal in the second quarter as accumulated stocks are moved and accumulated demand is satisfied. They decline again in the third quarter and, because of the seasonality of some of the major export commodities and the stock-piling of goods that are expensive to move in winter, rise to between 5 p.c. and 10 p.c. above normal during the final quarter. The differences in the export and import seasonal pattern should not be overlooked in any examination of month-to-month or quarter-to-quarter changes in the balance of trade.

* A more detailed discussion of this problem is given in DBS Bulletin *Review of Foreign Trade, First Half Year 1968*.

3.—Trade of Canada by Industrial Origin, Annual Averages for Certain Periods 1928-57

(Millions of dollars)

Origin Group	Domestic Exports					Imports				
	Calendar Years					Calendar Years				
	Years Ended Mar. 31	1936-39	1946-49	1951-54	1955-56	1926-29	1936-39	1946-49	1951-54	1955-56
Farm Origin										
Raw materials	712.7	340.3	942.5	1,143.6	979.4	986.9	234.5	699.4	922.7	1,008.7
Partly manufactured	501.2	203.9	551.9	581.9	705.8	735.0	95.0	279.2	403.7	427.0
Chiefly manufactured	10.6	8.4	16.4	31.3	22.5	24.8	41.5	104.0	126.5	133.1
	201.0	128.1	374.2	273.3	251.2	227.1	98.0	316.2	392.4	458.7
Wild Life Origin										
Raw materials	22.7	16.3	27.3	25.3	29.1	28.0	4.5	9.6	11.4	14.0
Partly manufactured	22.4	15.5	26.3	24.1	27.2	26.0	3.1	7.5	8.8	10.7
Chiefly manufactured	0.2	0.6	0.5	0.7	1.4	1.3	1.2	1.3	1.5	2.5
	0.1	0.1	0.5	0.6	0.5	0.6	0.4	0.8	1.1	0.7
Marine Origin										
Raw materials	36.9	27.2	90.6	121.5	130.4	131.9	3.5	10.2	10.7	16.7
Partly manufactured	11.3	11.6	43.8	70.3	78.3	84.2	1.1	3.2	3.3	4.6
Chiefly manufactured	—	—	0.3	0.9	0.9	0.5	—	—	—	—
	25.6	15.7	46.6	50.3	51.5	47.1	2.4	7.1	7.3	12.0
Forest Origin										
Raw materials	294.2	218.6	835.6	1,360.0	1,518.0	1,456.2	51.9	84.5	153.3	216.8
Partly manufactured	23.5	16.5	52.0	73.8	86.1	63.4	1.2	2.8	6.6	12.9
Chiefly manufactured	110.9	74.5	367.2	624.2	692.6	632.9	13.8	31.0	31.0	47.4
	149.8	127.5	416.4	659.9	759.3	736.9	36.9	65.3	115.8	156.5
Mineral Origin										
Raw materials	194.8	257.3	720.2	1,204.8	1,632.8	1,913.1	483.2	1,406.0	2,449.6	3,168.2
Partly manufactured	38.0	37.9	83.8	216.2	454.1	544.8	108.0	346.8	444.0	477.2
Chiefly manufactured	68.0	137.7	311.0	595.8	814.8	853.6	18.4	40.3	69.9	95.0
	90.8	81.7	335.4	392.3	304.8	366.8	231.5	1,018.9	1,935.7	2,596.0
Mixed Origin										
Raw materials	25.0	27.1	172.7	198.3	245.1	323.0	92.3	265.1	600.1	784.5
Partly manufactured	—	—	0.2	1.0	2.2	2.1	—	—	0.1	0.5
Chiefly manufactured	1.6	0.8	172.5	196.8	242.2	319.3	4.2	6.7	11.2	10.0
	23.4	26.3	—	—	—	—	88.1	258.3	588.8	774.0
Totals										
Raw materials	1,276.3	886.7	2,788.9	4,053.6	4,535.8	4,839.1	1,083.2	2,474.8	4,147.8	5,208.9
Partly manufactured	596.4	285.4	757.7	1,238.8	1,333.7	1,508.6	190.2	639.5	806.6	932.9
Chiefly manufactured	189.2	221.9	695.6	1,241.4	1,532.5	1,481.9	101.3	168.7	210.2	278.0
	490.6	379.4	1,335.5	1,573.4	1,669.6	1,735.6	708.4	1,686.6	3,041.1	3,998.0

¹ Less than \$500,000.

² Revised to include transfer of uranium ores and concentrates from Mixed Origin which were \$8,056,000 in 1954, \$26,533,000 in 1955 and \$45,777,000 in 1956.

PART II.—FOREIGN TRADE STATISTICS*

Section 1.—Explanations *re* Canadian Trade Statistics

Certain problems of procedure arise in recording trade statistics and require explanation. For the correct interpretation of the statistics of foreign trade, it is necessary that the following definitions and explanations of terms used be kept in mind:—

Quantities and Values.—In all tables of imports and exports the quantities and values are based upon the declarations of importers (import entries) and exporters (export entries), as subsequently checked by customs officials.

Imports: Valuation.—“Imports” means imports entered for consumption. “Entered for consumption” does not necessarily imply that the goods have been actually consumed in Canada but that they have passed into the possession of the importer and that duty has been paid on that portion liable for duty.

Under the main provisions of the law, the value of merchandise imported into Canada is the fair market value or price thereof when sold for home consumption in the principal markets of the country from which said merchandise was exported. (See Sects. 35 to 45 and 55 of the Customs Act.)

Canadian Exports: Valuation.—“Canadian produce” exported (domestic exports) includes Canadian products or manufactures, also exports of commodities of foreign origin that have been changed in form or enhanced in value by further manufacture in Canada, such as sugar refined in Canada from imported raw sugar, aluminum extracted from imported ore, and articles constructed or manufactured from imported materials. The value of exports of Canadian merchandise is the actual amount received in Canadian dollars exclusive of freight, insurance and other handling charges.

Foreign Exports: Valuation.—“Foreign produce” exported (re-exports) consists of foreign merchandise that has previously been imported (entered for home consumption) and is exported from Canada unchanged in form. The value of such commodities is the actual amount received in Canadian dollars exclusive of freight, insurance and other handling charges.

Countries to which Trade is Credited.—Imports are classified as received from the countries whence they were consigned to Canada. These countries are not necessarily the countries of actual origin of the goods, since goods produced in one country may be imported by a firm in another country and later re-sold to Canada. In such cases the second country would be the country of consignment to which the goods would be credited.

There is one exception to this rule. An attempt is made to classify by country of actual origin imports produced in Central and South America but consigned to Canada from the United States. The effect of this procedure, which has been in force since 1946, is to reduce slightly the imports credited to the United States and to increase those credited to Central and South American countries.

Exports are always credited to the country to which they are consigned.

Discrepancies in Trade Statistics between Canada and Other Countries.—Canada's statistics of exports are rarely in exact agreement with the import statistics of its customers and parallel differences occur with Canadian imports. Among the chief factors contributing to these discrepancies are:—

- (1) Differences in the system of valuation used by Canada and those of other countries, especially with respect to the treatment of transportation charges.
- (2) Differences in the statistical treatment of special categories of trade, such as armaments and military supplies, government-financed gift or mutual aid shipments, postal and express shipments, or warehouse trade.
- (3) Differing definitions of territorial areas.
- (4) Differing systems of geographical classification of trade, notably the consignment system used by Canada and the actual origin or ultimate destination system in use by some other countries.
- (5) Differences in the time at which trade is recorded in the statistics of partner countries caused by the time required for goods to move from one country to another.

* Based on statistics taken from reports published by the External Trade Section, International Trade Division, Dominion Bureau of Statistics.

Treatment of Gold in Trade Statistics.—The general use of gold as a money metal gives it peculiar attributes that distinguish it from other commodities in trade. In particular, international movements of gold are determined largely by monetary factors rather than by ordinary trade or commercial considerations. Gold is generally acceptable; it does not have to surmount tariff barriers and is normally assured a market at a fixed minimum price. Also, gold may be bought or sold internationally without any physical movements of the metal, such transactions being recognized by simply setting aside or 'ear-marking' the metal in the vaults of some central bank.

For these reasons movements of gold in a primary or semi-fabricated state are excluded from the statistics of Canada's commodity trade. However, since gold is produced in Canada primarily as an export commodity, a series showing new gold production available for export is published as a supplement to the trade statistics. Because this series is calculated on a production basis, a division of the figures into transactions with individual countries is not possible.

1.—New Gold Production Available for Export, by Month, 1950-57

NOTE.—Since Mar. 21, 1956, mines not receiving aid under the Emergency Gold Mining Assistance Act have been allowed to sell their gold to private residents and non-residents, either for export or for safe-keeping in Canada. Such sales, commencing in April 1956, are now included in the figures for new gold production available for export.

(Millions of dollars)

Month	1950	1951	1952	1953	1954	1955	1956	1957
January.....	15.8	17.3	13.3	16.0	11.5	11.5	12.5	13.9
February.....	11.7	11.7	13.0	16.1	10.2	14.7	12.7	12.5
March.....	13.5	8.4	15.0	15.6	12.8	12.2	12.4	12.1
April.....	11.4	16.2	11.2	11.7	13.8	10.9	12.5	10.8
May.....	15.8	13.0	8.5	12.0	13.7	15.0	14.0	15.4
June.....	15.0	13.8	14.6	13.7	15.6	13.3	12.9	5.2
July.....	14.8	13.4	14.9	9.3	13.6	11.9	11.1	12.7
August.....	13.8	11.0	9.6	10.7	13.3	13.1	14.5	3.9
September.....	10.8	10.8	12.8	10.4	11.9	12.2	12.2	10.2
October.....	16.4	8.2	10.1	9.9	12.3	11.7	12.3	16.3
November.....	12.3	7.7	13.6	9.1	12.3	15.0	12.3	16.4
December.....	11.3	18.3	13.5	9.8	13.7	13.4	10.4	17.1
Totals.....	162.6	149.8	150.1	144.3	154.7	154.9	149.8	146.5

Section 2.—Total Foreign Trade

In considering the figures in Sections 2 to 6, reference should be made to the explanatory notes on trade in Section 1. It must be emphasized that gold imports and exports are excluded from all tables.

2.—Value of Total Foreign Trade of Canada (excluding Gold), 1943-57

NOTE.—These figures are available on a calendar-year basis since 1919; figures for 1919-34 are given in the 1950 Year Book, p. 905, and for 1935-42 in the 1954 edition, p. 969. Figures for the years ended Mar. 31, 1868-1939 are given in the 1940 Year Book, p. 526.

Year	Imports			Exports			Balance of Trade: Excess of Exports (+) Imports (-)
	Dutiable	Free	Total	Domestic Produce	Foreign Produce	Total	
	\$	\$	\$	\$	\$	\$	\$
1943.....	836,548,673	898,528,217	1,735,076,890	2,971,475,277	29,877,002	3,001,352,279	+1,266,275,389
1944.....	884,751,584	874,146,613	1,758,898,197	3,439,953,165	43,145,447	3,483,098,612	+1,724,200,415
1945.....	798,795,201	786,979,941	1,585,775,142	3,218,330,353	49,093,935	3,267,424,288	+1,681,649,146
1946.....	1,078,943,972	848,335,430	1,927,279,402	2,312,215,301	28,950,546	2,339,165,847	+411,886,445
1947.....	1,562,690,081	1,011,254,044	2,573,944,125	2,774,902,355	30,888,055	2,811,790,410	+237,846,285

2.—Value of Total Foreign Trade of Canada (excluding Gold), 1943-57—concluded

Year	Imports			Exports			Balance of Trade: Excess of Exports (+) Imports (-)
	Dutiable	Free	Total	Domestic Produce	Foreign Produce	Total	
	\$	\$	\$	\$	\$	\$	
1948.....	1,382,202,722	1,254,742,630	2,636,945,352	3,075,438,085	34,590,583	3,110,028,668	+ 473,083,316
1949.....	1,444,123,667	1,317,083,574	2,761,207,241	2,992,960,978	29,491,856	3,022,452,834	+ 261,245,593
1950.....	1,617,948,425	1,556,304,713	3,174,253,138	3,118,886,551	38,686,122	3,157,072,673	- 17,180,465
1951.....	2,174,304,400	1,910,562,078	4,084,856,478	3,914,460,376	48,923,939	3,963,384,315	- 121,472,163
1952.....	2,162,882,381	1,867,585,272	4,030,467,653	4,301,080,679	54,878,985	4,355,959,664	+ 325,492,011
1953.....	2,417,960,243	1,964,870,187	4,382,830,430	4,117,405,882	55,195,233	4,172,601,115	- 210,229,315
1954.....	2,311,344,114	1,781,852,224	4,093,196,338	3,881,271,854	65,644,868	3,946,916,722	- 146,279,616
1955.....	2,637,434,788	2,074,935,247	4,712,370,035	4,281,784,253	69,499,433	4,351,283,736	- 361,086,299
1956.....	3,292,516,113	2,412,932,790	5,705,448,903	4,789,745,693	73,397,431	4,863,143,124	- 842,305,779
1957.....	3,223,197,032	2,400,213,427	5,623,410,459	4,839,094,393	95,285,831	4,934,380,224	- 689,030,235

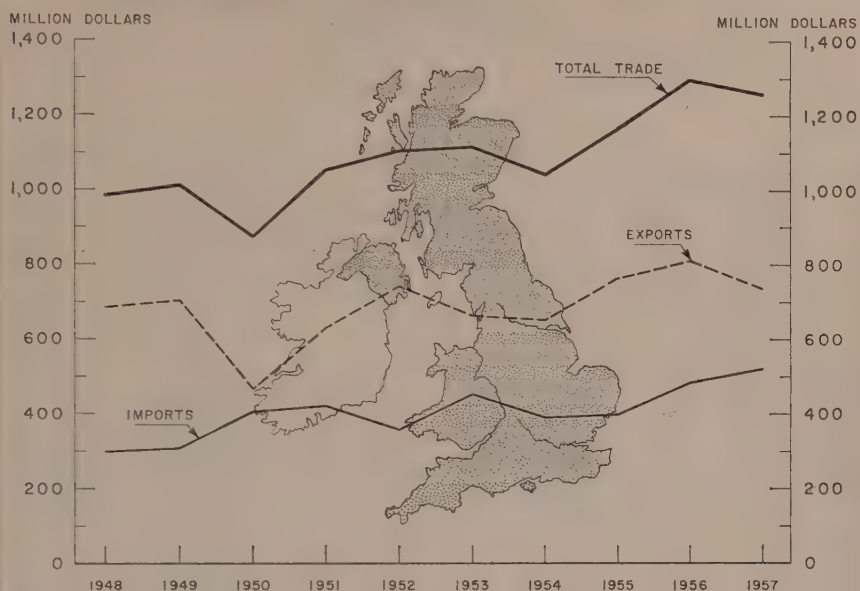
Section 3.—Trade by Geographic Areas

The tables in this Section provide information about Canada's total foreign trade by continent and by country.

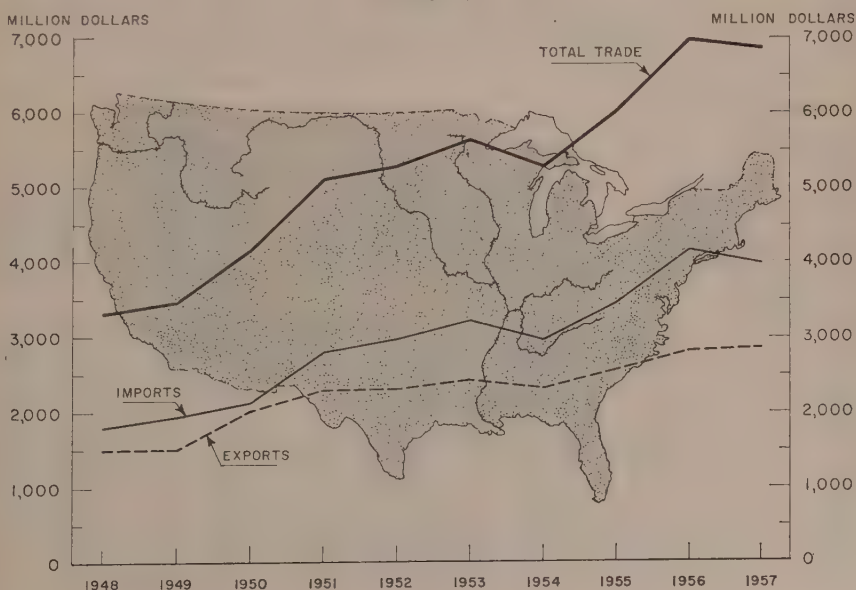
3.—Trade of Canada, by Continent, 1954-57

Item and Continent	1954		1955		1956		1957	
	Value	P.C. of Total	Value	P.C. of Total	Value	P.C. of Total	Value	P.C. of Total
	\$'000		\$'000		\$'000		\$'000	
Imports								
Europe—								
United Kingdom.....	392,472	9.6	400,531	8.5	484,679	8.5	521,958	9.3
Other Europe.....	179,782	4.4	204,741	4.3	297,116	5.2	314,090	5.6
North America—								
United States.....	2,961,380	72.3	3,452,178	73.3	4,161,667	72.9	3,998,549	71.1
Other North America.....	111,400	2.7	140,316	3.0	166,767	2.9	167,528	3.0
South America.....	258,127	6.3	273,657	5.8	305,693	5.4	341,348	6.0
Asia.....	114,868	2.8	162,419	3.4	204,498	3.6	190,154	3.4
Oceania.....	43,079	1.1	46,933	1.0	49,414	0.9	51,737	0.9
Africa.....	32,088	0.8	31,595	0.7	35,615	0.6	38,046	0.7
Totals, Imports.....	4,093,196	100.0	4,712,370	100.0	5,705,449	100.0	5,623,410	100.0
Exports (Domestic)								
Europe—								
United Kingdom.....	653,408	16.8	769,313	18.0	812,706	17.0	737,530	15.2
Other Europe.....	353,452	9.1	393,105	9.2	542,342	11.3	560,813	11.6
North America—								
United States.....	2,317,153	59.7	2,559,343	59.8	2,818,655	58.8	2,867,608	59.3
Other North America.....	114,274	2.9	124,179	2.9	141,503	3.0	172,897	3.6
South America.....	126,709	3.3	94,320	2.2	101,107	2.1	122,539	2.5
Asia.....	185,770	4.8	178,018	4.1	216,223	4.5	239,235	4.9
Oceania.....	65,212	1.7	86,701	2.0	71,534	1.5	70,885	1.5
Africa.....	65,294	1.7	76,805	1.8	85,676	1.8	67,587	1.4
Totals, Exports (Domestic)....	3,881,272	100.0	4,281,784	100.0	4,783,746	100.0	4,839,094	100.0

CANADIAN TRADE WITH THE UNITED KINGDOM, 1948-57



CANADIAN TRADE WITH THE UNITED STATES, 1948-57



4.—Trade of Canada with Commonwealth and Foreign Countries, Selected Years 1886-1957

Item and Year	Canadian Trade with—							
	United Kingdom		United States		Other Commonwealth Countries		Other Foreign Countries	
	Value	P.C. of Total	Value	P.C. of Total	Value	P.C. of Total	Value	P.C. of Total
Imports	\$'000		\$'000		\$'000		\$'000	
Ended Mar. 31—								
1886.....	39,033	40.7	42,819	44.6	2,384	2.5	11,757	12.2
1891.....	42,019	37.7	52,033	46.7	2,313	2.1	15,163	13.5
1896.....	32,825	31.2	53,529	50.8	2,389	2.2	16,619	15.8
1901.....	42,820	24.1	107,378	60.3	3,833	2.2	23,900	13.4
1906.....	69,184	24.4	169,256	59.6	14,606	5.1	30,694	10.9
1911.....	109,935	24.3	275,824	60.8	19,533	4.4	47,453	10.5
1916.....	77,404	15.2	370,881	73.0	27,826	5.5	32,091	6.3
1921.....	213,974	17.3	856,177	69.0	52,029	4.2	117,979	9.5
Ended Dec. 31—								
1926.....	164,707	16.3	668,747	66.3	49,907	5.0	124,980	12.4
1929.....	194,778	15.0	893,535	68.8	62,287	4.8	148,343	11.4
1937.....	147,292	18.2	490,505	60.7	89,304	11.0	81,796	10.1
1939.....	114,007	15.2	496,898	66.1	74,893	10.0	65,257	8.7
1943.....	134,905	7.7	1,423,672	82.1	103,666	6.0	72,773	4.2
1947.....	189,370	7.4	1,974,679	76.7	165,024	6.5	244,871	9.5
1948.....	299,502	11.3	1,805,763	68.5	204,612	7.8	327,069	12.4
1949.....	307,450	11.1	1,951,860	70.7	186,779	6.8	315,118	11.4
1950.....	404,213	12.7	2,130,476	67.1	241,411	7.6	398,153	12.6
1951.....	420,985	10.3	2,812,927	68.9	306,104	7.5	544,840	13.3
1952.....	359,757	8.9	2,976,962	73.9	184,704	4.6	509,044	12.6
1953.....	453,391	10.3	3,221,214	73.5	170,571	3.9	537,654	12.3
1954.....	392,472	9.6	2,961,380	72.4	181,760	4.4	557,584	13.6
1955.....	400,531	8.5	3,452,178	73.3	209,772	4.4	649,899	13.8
1956.....	484,679	8.5	4,161,667	72.9	221,232	3.9	837,872	14.7
1957.....	521,958	9.3	3,998,549	71.1	238,861	4.2	864,042	15.4
Exports (Domestic)								
Ended Mar. 31—								
1886.....	36,694	47.2	34,284	44.1	3,263	4.2	3,515	4.5
1891.....	43,244	48.8	37,743	42.6	3,893	4.4	3,791	4.2
1896.....	62,718	57.2	37,739	34.4	4,048	3.7	5,152	4.7
1901.....	92,858	52.3	67,984	38.3	7,891	4.5	8,700	4.9
1906.....	127,456	54.2	83,546	35.5	10,965	4.6	13,516	5.7
1911.....	132,157	48.2	104,116	38.0	16,811	6.1	21,233	7.7
1916.....	451,852	60.9	201,106	27.1	30,677	4.2	57,974	7.8
1921.....	312,845	26.3	542,323	45.6	90,607	7.6	243,389	20.5
Ended Dec. 31—								
1926.....	459,223	36.4	457,878	36.3	95,701	7.6	248,439	19.7
1929.....	290,295	25.2	492,686	42.8	105,006	9.1	264,430	22.9
1937.....	402,062	40.3	360,012	36.1	104,159	10.4	131,134	13.2
1939.....	328,099	35.5	380,392	41.1	102,707	11.1	113,728	12.3
1943.....	1,032,647	34.8	1,149,232	38.7	369,015	12.4	420,581	14.1
1947.....	751,198	27.1	1,034,226	37.3	417,303	15.0	572,175	20.6
1948.....	686,914	22.3	1,500,987	48.8	345,477	11.3	542,060	17.6
1949.....	704,956	23.5	1,503,459	50.2	310,067	10.4	474,480	15.9
1950.....	469,910	15.1	2,020,988	64.8	185,179	5.9	442,310	14.2
1951.....	631,461	16.1	2,297,675	58.7	240,946	6.2	744,379	19.0
1952.....	745,845	17.3	2,306,955	53.7	261,687	6.1	986,593	22.9
1953.....	665,232	16.2	2,418,915	58.7	232,352	5.6	800,906	19.5
1954.....	653,408	16.9	2,317,153	59.7	195,053	5.0	715,658	18.4
1955.....	769,313	18.0	2,559,343	59.8	237,125	5.5	716,004	16.7
1956.....	812,706	17.0	2,818,655	58.8	243,216	5.1	915,169	19.1
1957.....	737,530	15.2	2,867,608	59.3	233,117	4.8	1,000,839	20.7

5.—Trade of Canada, by Leading Countries, 1955-57

Rank in—			Item and Country	1955	1956	1957
1955	1956	1957				
			Imports	\$'000	\$'000	\$'000
1	1	1	United States.....	3,452,178	4,161,667	3,998,549
2	2	2	United Kingdom.....	400,531	484,679	521,958
3	3	3	Venezuela.....	187,277	208,401	248,145
4	4	4	Germany, Federal Republic of.....	55,603	89,348	97,646
5	5	5	Japan.....	36,718	60,826	61,605
9	6	6	Belgium and Luxembourg.....	29,051	52,728	44,066
21	16	7	Jamaica.....	15,567	24,633	40,210
8	8	8	Netherlands Antilles.....	30,722	38,119	39,269
13	10	9	France.....	25,016	32,600	36,183
7	9	10	Brazil.....	30,747	34,832	35,325
29	15	11	Arabia.....	6,986	24,712	34,316
17	14	12	Italy.....	18,502	24,967	33,012
6	11	13	India.....	35,147	30,898	29,248
12	13	14	Australia.....	26,295	26,310	28,728
11	12	15	Malaya and Singapore.....	28,810	28,558	27,356
15	17	16	Netherlands.....	20,951	23,776	25,396
16	19	17	Switzerland.....	19,365	22,301	24,660
10	7	18	Mexico.....	28,814	41,699	21,113
18	20	19	British Guiana.....	18,307	20,498	21,003
14	18	20	Colombia.....	22,220	23,056	18,190
24	23	21	Sweden.....	12,152	17,303	15,568
20	23	22	Ceylon.....	15,581	16,564	14,916
25	25	23	Cuba.....	10,025	12,279	13,866
23	24	24	New Zealand.....	12,316	12,321	11,770
1	28	25	Mauritius and Seychelles.....	1	7,785	10,278
38	33	26	Denmark.....	4,269	6,182	8,616
32	45	27	Costa Rica.....	5,948	3,893	8,606
26	26	28	Trinidad and Tobago.....	9,840	11,051	8,205
28	38	29	Barbados.....	8,236	4,634	7,628
33	36	30	Hong Kong.....	5,875	5,699	7,223
			Totals, 30 Leading Countries.....	4,573,049	5,552,319	5,492,654
			Grand Totals, Imports.....	4,712,370	5,705,449	5,623,410
			Exports (Domestic)			
1	1	1	United States.....	2,559,343	2,818,655	2,867,608
2	2	2	United Kingdom.....	769,313	812,706	737,530
4	3	3	Germany, Federal Republic of.....	90,751	134,098	151,939
3	4	4	Japan.....	90,893	127,870	139,152
8	8	5	Netherlands.....	47,689	54,559	69,849
13	12	6	Italy.....	27,653	37,744	62,842
7	6	7	Belgium and Luxembourg.....	53,384	57,852	60,402
10	9	8	France.....	42,563	53,156	57,506
9	7	9	Norway.....	47,689	54,559	55,548
5	10	10	Australia.....	58,482	47,747	48,883
6	5	11	Union of South Africa.....	56,026	64,616	48,441
11	11	12	Mexico.....	37,126	39,385	42,613
12	13	13	Venezuela.....	30,756	34,335	39,844
50	31	14	Panama.....	2,824	7,748	39,665
15	15	15	India.....	24,669	25,714	28,991
23	24	16	Brazil.....	11,520	13,028	25,798
14	14	17	Switzerland.....	25,640	33,535	25,045
20	22	18	Jamaica.....	12,907	17,222	19,487
18	18	19	Philippines.....	18,136	18,060	17,540
17	19	20	New Zealand.....	22,344	17,995	16,964
19	23	21	Cuba.....	13,910	15,371	16,889
40	20	22	Poland.....	4,005	17,918	16,669
16	21	23	Colombia.....	22,691	17,589	14,627
23	33	24	Argentina.....	6,833	6,183	14,199
24	28	25	Puerto Rico.....	9,715	10,421	12,610
25	30	26	Sweden.....	7,622	7,894	12,111
22	25	27	Trinidad and Tobago.....	12,625	12,491	11,811
29	27	28	Pakistan.....	6,202	10,502	11,395
2	16	29	Union of Soviet Socialist Republics.....	2,680	24,606	10,658
31	26	30	Peru.....	6,001	11,337	10,108
			Totals, 30 Leading Countries.....	4,121,992	4,601,894	4,677,724
			Grand Totals, Exports (Domestic).....	4,281,784	4,789,746	4,839,094

1 Included with British East Africa prior to 1956.

2 Lower than 50th.

6.—Value of Imports by Country 1951-57, with Averages 1935-39

Country	Averages 1935-39	1951	1952	1953	1954	1955	1956	1957
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
North America	421,356	2,814,436	2,979,344	3,224,217	2,968,996	3,456,175	4,165,506	4,003,315
Alaska.....	93	1,483	2,333	2,961	7,573	3,932	3,792	4,619
Greenland.....	311	—	1	6	13	13	10	55
St. Pierre and Miquelon.....	26	25	48	66	30	52	38	91
United States.....	418,738	2,812,927	2,976,962	3,221,214	2,961,380	3,452,178	4,161,667	3,998,549
Central America and Antilles	14,570	113,818	112,431	89,910	103,784	136,319	162,928	162,762
Bahamas.....	1	346	406	427	418	272	221	167
Bermuda.....	102	82	317	126	390	258	273	247
British Honduras.....	87	458	26	139	124	164	171	210
West Indies Federation.....	12,624	47,488	27,746	23,408	31,512	36,099	42,511	58,430
Barbados.....	3,861	13,409	8,666	2,875	6,355	8,236	4,634	7,638
Jamaica.....	6,160	18,041	9,204	11,761	16,309	16,667	24,633	40,210
Leeward and Windward Islands.....	1,816	966	216	1,210	1,850	2,456	2,193	2,387
Trinidad and Tobago.....	2,387	16,082	9,660	8,062	9,595	9,840	11,061	8,205
American Virgin Islands.....	2	166	—	—	2	2	—	5
Costa Rica.....	77	8,785	8,740	9,472	7,746	5,948	3,893	8,606
Cuba.....	815	8,333	18,615	11,654	9,913	10,025	12,279	13,866
Dominican Republic.....	4	1,126	6,000	5,854	1,663	1,529	1,346	1,274
El Salvador.....	19	1,183	771	1,389	951	2,962	1,133	1,312
French West Indies.....	1	2	2	—	1	158	2	—
Guatemala.....	67	4,618	2,082	3,259	5,060	4,545	3,227	3,470
Haiti.....	63	3,020	1,928	748	1,570	1,597	1,683	1,494
Honduras.....	49	4,027	4,643	4,594	2,589	1,666	7,079	4,575
Mexico.....	667	18,013	23,937	15,735	14,033	28,814	41,699	21,113
Netherlands Antilles.....	150	10,809	11,747	8,154	20,582	30,722	38,119	39,269
Nicaragua.....	2	596	501	391	181	1,429	655	555
Panama.....	32	3,492	4,125	3,637	5,850	9,037	7,585	7,198
Puerto Rico.....	13	1,276	846	872	1,203	1,094	1,054	972
South America	22,930	246,666	237,073	232,332	258,127	273,657	305,693	341,348
British Guiana.....	5,846	25,025	23,660	17,800	20,482	18,307	20,498	21,003
Falkland Islands.....	2	—	—	—	1	—	—	2
Argentina.....	5,374	13,955	4,374	8,529	2,738	4,414	4,626	4,703
Bolivia.....	26	1,848	3,351	1,415	267	19	88	148
Brazil.....	920	40,627	35,103	35,047	31,622	30,747	34,832	35,325
Chile.....	125	2,153	3,282	1,052	236	250	1,704	1,622
Colombia.....	5,139	13,063	18,004	23,215	24,820	22,220	23,056	18,190
Ecuador.....	41	2,438	2,751	2,688	3,763	5,187	4,498	4,428
French Guiana.....	1	—	—	3	—	2	—	—
Paraguay.....	62	343	346	260	520	237	142	278
Peru.....	3,554	5,588	8,050	2,928	2,264	869	2,766	2,799
Surinam.....	2	1,141	528	1,345	2,793	3,646	3,925	3,899
Uruguay.....	180	3,768	1,863	2,903	1,025	483	1,157	809
Venezuela.....	1,662	136,718	135,758	155,147	167,594	187,277	208,401	248,145
Northwestern Europe	157,485	567,916	485,675	600,417	544,666	572,358	737,036	782,936
United Kingdom.....	124,047	420,985	359,757	453,391	392,472	400,531	484,679	521,958
Austria.....	245	3,191	2,917	2,967	3,043	2,709	3,913	4,431
Belgium and Luxembourg.....	6,330	39,095	33,216	29,082	25,077	29,051	52,725	44,066
Denmark.....	165	3,730	2,167	2,175	3,463	4,269	6,182	8,616
France.....	6,382	23,974	19,117	22,267	22,046	25,016	32,600	36,183
Germany, Federal Republic of.....	10,364 ¹	30,936 ¹	22,629	35,507	44,485	55,603	89,348	97,646
Iceland.....	3	26	50	80	59	8	9	47
Ireland.....	69	785	462	582	1,150	336	415	1,219
Netherlands.....	3,984	14,010	16,495	22,298	22,562	20,951	23,776	25,396
Norway.....	742	2,977	3,857	2,280	1,983	2,366	3,780	3,145
Sweden.....	2,044	11,808	8,611	9,341	9,175	12,152	17,303	15,568
Switzerland.....	3,110	16,398	16,396	20,437	19,151	19,365	22,301	24,660
Southern Europe	3,863	23,943	18,326	21,320	22,861	27,204	33,459	41,971
Gibraltar.....	—	—	—	—	1	2	1	7
Malta.....	2	47	51	67	67	62	53	87
Greece.....	47	174	197	224	231	280	274	456
Italy.....	2,403	14,217	11,735	14,271	15,006	18,502	24,967	33,012
Portugal.....	265	1,980	1,798	1,962	1,798	1,941	2,272	2,664
Azores and Madeira.....	157	410	285	179	193	200	164	149
Spain.....	989	7,114	4,260	4,619	5,566	6,220	5,727	5,596

¹ Included with Leeward and Windward Islands.² Less than \$500.³ Includes all Germany.

6.—Value of Imports by Country 1951-57, with Averages 1935-39—continued

Country	Averages 1935-39	1951	1952	1953	1954	1955	1956	1957
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Eastern Europe	2,943	7,070	7,553	5,476	4,727	5,709	11,300	11,140
Bulgaria	4	4	2	—	1	3	4	1
Czechoslovakia	1,979	4,668	3,559	2,589	1,796	2,880	5,675	5,045
Estonia	23	116	31	9	5	2	1	2
Finland	70	158	234	548	609	384	527	482
Germany, Eastern	1	3	492	959	721	572	779	707
Hungary	130	121	279	184	210	124	209	408
Latvia	11	33	36	7	5	5	2	2
Lithuania	4	12	16	3	2	—	1	1
Poland	185	1,430	556	244	405	595	2,185	1,110
Romania	96	22	13	7	3	1	3	1
Union of Soviet Socialist Republics	341	358	2,234	824	687	628	1,007	2,804
Yugoslavia	99	149	101	101	284	516	907	578
Middle East	1,612	45,204	29,338	30,650	23,697	31,770	50,342	38,504
Aden	4	22	7	10	79	48	73	51
Arabia	1	22,659	7,559	2,196	2,225	6,986	24,712	34,317
Egypt	728	711	462	4,203	440	294	166	330
Ethiopia	5	31	21	44	97	90	125	63
Iran	126	521	1,168	1,025	1,385	2,064	1,057	546
Iraq	357	2,132	924	1,371	238	1,299	941	435
Israel	68	929	1,161	1,312	1,040	1,166	1,511	1,587
Italian Africa	1	3	—	—	—	—	—	—
Jordan	—	—	—	—	—	2	1	4
Libya	—	—	—	—	1	3	1	1
Lebanon	—	—	—	—	—	—	—	—
Syria	6	16,381	15,171	19,584	17,413	17,920	19,601	43
Sudan	25	58	72	56	23	1,059	1,351	242
Turkey	293	1,757	76	60	57	97	97	45
			2,719	791	699	743	706	841
Other Asia	34,355	150,954	92,019	87,734	91,766	131,133	154,544	152,088
Ceylon	4,015	16,396	12,492	14,461	12,527	15,581	16,564	14,916
India	8,315	40,217	26,822	26,627	28,054	35,147	30,898	29,248
Pakistan	842	2,233	191	558	566	816	1,306	504
Hong Kong	11,154	3,001	3,711	4,427	4,154	5,875	5,699	7,223
Malaya and Singapore	79	57,980	25,473	21,896	19,586	28,810	28,558	27,556
Other British East Indies		4,623	1,772	350	172	71	122	120
Afghanistan	1	51	19	42	9	6	—	—
Burma	381	4	4	2	79	7	1	9
China	3,344	1,929	1,286	1,119	1,621	3,125	5,721	5,304
Taiwan	126	1	—	75	187	155	112	193
Indo-China	800	1,052	893	1	45	172	16	7
Indonesia	4,649	12,577	13,162	13,629	611	1,001	1,143	965
Japan	1	1	8	54	197	36,718	60,826	61,605
Korea	565	8,954	5,423	2,986	170	480	8	35
Philippines	1	—	—	14	4,001	2,027	2,467	3,976
Portuguese Asia	84	—	—	—	1	—	—	—
Thailand		1,938	764	896	786	1,142	1,103	630
Other Africa	8,455	30,748	25,595	28,518	31,495	31,112	35,227	37,608
British East Africa	2,683	10,864	9,593	9,393	15,852	13,158	7,289	4,989
Mauritius and Seychelles							7,758	10,278
Federation of Rhodesia and Nyassaland	316 ¹	1,505	1,474	3,864	1,161	482	720	1,095
Union of South Africa	4,210 ¹	5,372	4,165	4,616	5,911	6,255	8,401	6,859
Other British South Africa	701	—	—	8	3	1	8	2
Ghana	370	7,112	5,523	3,159	1,986	3,775	4,063	5,989
Nigeria	1	898	1,764	1,584	866	858	986	2,355
Sierra Leone	7	49	6	2	7	8	18	9
Other British West Africa	1	—	—	1	1	—	—	1
Belgian Congo	5	3,052	990	2,247	1,489	2,673	2,744	3,338
Canary Islands	10	16	22	30	26	25	24	20
French Africa	61	398	404	2,631	3,184	3,267	2,075	2,275
Liberia	14	183	29	372	135	214	441	7
Madagascar	31	29	1	8	304	14	38	23
Morocco	32	1,071	1,049	529	197	195	196	292
Portuguese East Africa	15	198	576	73	191	128	370	41
Portuguese West Africa				2	181	44	94	33
Spanish Africa	—	—	—	—	—	16	1	2

¹ Less than \$500.² Included with Germany, Federal Republic of.³ Not listed separately.⁴ Southern Rhodesia only.

6.—Value of Imports by Country 1951-57, with Averages 1935-39—concluded

Country	Averages 1935-39	1951	1952	1953	1954	1955	1956	1957
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Oceania	17,015	84,102	43,114	42,226	43,079	46,933	49,414	51,737
Australia.....	9,728	46,228	18,712	23,464	24,657	26,295	26,310	28,728
Fiji.....	2,341	5,993	6,487	5,554	5,813	5,016	6,267	7,218
New Zealand.....	4,754	30,107	14,231	8,572	7,314	12,316	12,321	11,770
Other British Oceania.....	3	—	—	—	—	—	142	—
French Oceania.....	3	360	1	—	3	—	1	19
Hawaii.....	186	1,414	3,473	4,635	5,292	3,305	4,374	4,003
United States Oceania.....	1	—	210	—	—	—	—	—
Totals, Imports	684,582	1,081,856	1,030,468	1,382,830	1,093,196	1,712,370	5,705,449	5,623,410
Totals, Commonwealth Countries	191,412	727,088	544,462	623,962	574,231	610,302	705,911	760,819
Totals, United States and Dependencies	419,030	2,517,265	2,983,821	3,229,682	2,975,447	3,460,510	4,170,884	4,008,149

Less than \$500.

7.—Value of Domestic Exports by Country 1951-57, with Averages 1935-39

Country	Averages 1935-39	1951	1952	1953	1954	1955	1956	1957
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
North America	329,805	2,301,330	2,309,787	2,421,558	2,319,950	2,562,031	2,823,358	2,872,219
Alaska.....	154	2,264	1,249	1,130	1,272	1,221	3,128	2,809
Bermuda.....	—	206	303	194	299	86	176	76
St. Pierre and Miquelon.....	309	1,186	1,279	1,319	1,226	1,382	1,399	1,726
United States.....	321,294	2,297,675	2,306,955	2,418,915	2,317,153	2,559,343	2,818,655	2,867,608
Central America and Antilles	17,699	119,680	137,688	108,984	111,477	121,491	136,800	168,285
Bahamas.....	1	2,136	2,353	2,298	2,271	2,133	2,303	2,589
Bermuda.....	1,381	3,693	3,158	3,070	2,992	3,010	2,900	3,006
British Honduras.....	255	572	381	376	299	304	248	284
West Indies Federation.....	10,077	28,976	29,813	29,578	31,286	33,948	38,715	40,276
Barbados.....	1,218	4,684	5,918	3,734	4,878	4,867	4,721	4,665
Jamaica.....	3,887	10,213	10,591	12,490	11,552	12,907	17,222	19,487
Leeward and Windward Islands.....	1,600	4,229	4,276	3,864	3,951	4,149	4,281	4,513
Trinidad and Tobago.....	3,372	9,950	11,054	9,490	11,425	12,626	12,491	11,811
American Virgin Islands.....	42	181	167	178	119	190	130	126
Costa Rica.....	103	2,175	2,612	2,199	2,834	3,576	2,743	2,369
Cuba.....	1,418	20,424	24,181	16,124	17,455	13,910	15,371	16,889
Dominican Republic.....	171	4,060	4,643	3,993	4,269	4,168	4,985	5,024
El Salvador.....	69	2,002	2,230	1,901	1,526	1,808	2,295	2,415
French West Indies.....	157	40	47	23	24	23	17	39
Guatemala.....	117	2,365	1,896	2,234	2,021	2,508	3,003	3,207
Haiti.....	131	2,588	3,417	2,670	3,307	2,446	2,917	2,241
Honduras.....	159	3,575	1,736	556	471	588	868	1,061
Mexico.....	2,630	29,880	39,641	28,986	27,359	37,126	39,885	42,613
Netherlands Antilles.....	176	1,834	1,541	1,308	1,775	1,444	1,349	1,330
Nicaragua.....	72	1,097	1,185	1,354	1,653	1,769	1,402	1,542
Panama.....	316	5,961	11,359	4,380	4,057	2,824	7,748	30,665
Puerto Rico.....	425	8,120	7,328	7,763	7,757	9,715	10,421	12,610
South America	15,016	140,145	186,984	139,393	126,709	94,320	101,107	122,540
British Guiana.....	1,344	5,308	6,356	4,777	4,080	2,967	4,351	5,069
Falkland Islands.....	2	2	31	41	4	274	11	3
Argentina.....	4,606	8,883	8,227	7,641	6,692	6,833	6,183	14,199
Bolivia.....	113	3,484	6,398	5,501	1,272	1,086	1,489	949
Brazil.....	4,012	53,684	81,367	37,561	45,096	11,520	13,026	25,798
Chile.....	848	13,751	10,090	3,945	3,130	3,820	4,420	4,361
Colombia.....	1,296	12,311	13,756	20,146	21,000	22,091	17,589	14,627

¹ Included with Leeward and Windward Islands.² Less than \$500.

7.—Value of Domestic Exports by Country 1951-57, with Averages 1935-39—continued

Country	Averages 1935-39	1951	1952	1953	1954	1955	1956	1957
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
South America—concluded								
Ecuador.....	93	2,713	2,030	4,220	5,509	4,953	4,344	2,786
French Guiana.....	36	4	3	6	4	2	1	5
Paraguay.....	8	167	112	339	167	91	238	172
Peru.....	1,072	5,054	16,405	15,108	5,086	6,001	11,337	10,108
Surinam.....	49	934	1,097	712	911	971	1,025	829
Uruguay.....	310	6,868	5,429	2,912	2,784	2,355	2,758	3,789
Venezuela.....	1,139	26,982	35,683	36,485	30,973	30,756	34,335	39,844
Northwestern Europe	412,351	934,716	1,151,964	991,813	958,303	1,106,502	1,230,656	1,188,844
United Kingdom.....	353,741	631,461	745,845	665,232	653,408	769,313	812,706	737,530
Austria.....	27	2,166	5,216	5,136	2,857	6,025	5,214	6,712
Belgium and Luxembourg.....	13,204	94,457	104,376	69,510	54,987	53,384	57,852	60,402
Denmark.....	1,438	5,587	9,881	6,303	2,929	3,172	3,516	3,532
France.....	8,566	46,538	48,284	32,281	33,799	42,563	53,156	57,506
Germany, Federal Republic of.....	9,639	37,028	94,863	83,858	86,899	90,751	134,098	151,939
Iceland.....	28	700	833	2,058	669	505	292	271
Ireland.....	3,861	20,921	23,058	13,356	8,821	12,808	10,144	8,399
Netherlands.....	10,062	26,191	41,508	42,382	39,777	47,689	54,559	69,849
Norway.....	7,247	32,198	39,002	37,278	43,813	47,031	57,682	55,548
Sweden.....	3,593	12,125	12,198	4,587	3,518	7,622	7,894	12,111
Switzerland.....	948	25,345	26,918	29,333	26,826	25,640	33,535	25,045
Southern Europe	4,986	59,930	68,352	56,925	35,136	43,245	51,552	78,724
Gibraltar.....	9	648	353	486	252	286	240	272
Malta.....	377	2,150	3,111	3,307	3,043	3,934	4,064	2,755
Greece.....	1,142	2,703	4,415	1,560	2,505	4,298	2,523	4,121
Italy.....	2,785	48,763	52,645	33,170	23,844	27,653	37,744	62,842
Portugal.....	170	4,665	4,026	3,991	2,118	2,554	1,696	2,605
Azores and Madeira.....	8	259	224	231	641	311	231	214
Spain.....	495	742	3,579	14,179	2,734	4,210	5,053	5,915
Eastern Europe	3,091	6,510	25,873	3,779	13,420	12,671	72,846	30,775
Albania.....	3	1	1	—	1	1	1	1
Bulgaria.....	10	8	2	3	8	2	105	119
Czechoslovakia.....	881	492	367	123	295	1,062	24,558	1,422
Estonia.....	5	—	—	—	—	—	—	—
Finland.....	539	3,129	2,694	1,388	476	1,736	1,952	940
Germany, Eastern.....	3	—	—	—	1	2,261	1,458	25
Hungary.....	4	30	81	48	35	165	1,913	292
Latvia.....	242	—	—	—	1	1	—	—
Lithuania.....	196	—	—	—	—	—	—	—
Poland.....	805	94	69	183	558	4,005	17,918	16,669
Romania.....	52	11	45	94	74	397	124	429
Union of Soviet Socialist Republics.....	336	7	1	—	4,854	2,680	24,606	10,658
Yugoslavia.....	18	2,739	22,613	1,940	7,119	363	213	220
Middle East	1,511	31,117	50,326	33,218	21,500	12,108	11,987	13,797
Aden.....	109	25	127	34	22	16	9	2
Arabia.....	4	1,414	2,149	2,644	1,594	1,244	1,942	1,664
Egypt.....	399	2,466	19,363	11,688	1,201	1,291	2,539	1,221
Ethiopia.....	1	198	54	55	118	73	121	140
Iran.....	118	1,000	585	753	757	644	790	1,717
Iraq.....	55	1,062	313	458	425	1,170	657	1,070
Israel.....	251	11,816	11,940	9,059	10,174	4,558	2,725	5,050
Italian Africa.....	2	3	6	—	1	1	6	6
Jordan.....	4	1,071	105	38	123	49	97	98
Libya.....	1	2,029	854	1,279	840	74	101	203
Lebanon.....	80	7,036	9,355	5,161	982	1,293	1,320	1,116
Syria.....	109	34	580	578	1,169	1,045	719	812
Sudan.....	388	2,962	104	17	8	4	74	213
Turkey.....	388	2,962	4,791	1,455	7,086	647	887	483
Other Asia	36,001	163,986	224,196	238,021	163,438	167,352	207,078	227,223
Ceylon.....	246	3,470	5,825	3,307	3,147	2,671	3,341	3,213
India.....	3,732	35,737	55,423	37,187	17,689	24,669	25,714	25,991
Pakistan.....	4,486	16,016	32,103	32,103	8,970	6,202	10,502	11,395

¹ Less than \$500.² Includes all Germany.³ Included with Germany, Federal Republic of.⁴ Not listed separately.

7.—Value of Domestic Exports by Country 1951-57, with Averages 1935-39—concluded

Country	Averages 1935-39	1951	1952	1953	1954	1955	1956	1957
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Other Asia—concluded								
Hong Kong.....	1,651	12,033	9,582	9,000	8,252	7,253	7,026	7,595
Malaya and Singapore.....	2,173	10,796	7,067	2,854	2,983	3,421	3,914	3,316
Other British East Indies.....	5	1	13	27	18	53	127	187
Afghanistan.....	1	97	272	150	55	20	14	88
Burma.....	71	279	1,023	444	212	480	288	244
China.....	3,808	367	1,156	—	70	1,016	2,427	1,392
Taiwan.....	85	223	327	351	190	337	546	1,020
Indo-China.....	801	5,227	6,250	1,990	1,321	944	1,243	1,633
Indonesia.....	21,880	72,976	102,603	118,568	96,474	90,893	127,870	139,152
Japan.....	3	213	335	14,991	3,197	7,514	2,864	7,302
Korea.....	1,523	15,598	16,045	13,872	15,863	18,136	18,060	17,540
Philippines.....	1	107	282	190	43	174	454	461
Portuguese Asia.....	22	2,378	1,976	1,509	1,767	2,341	1,936	2,046
Thailand.....								
Other Africa	20,645	78,090	69,878	69,996	63,126	75,362	82,834	65,803
British East Africa.....	789	1,444	1,031	348	375	602	415	788
Mauritius and Seychelles.....							108	146
Federation of Rhodesia and Nyasaland.....	970	2,950	2,662	2,220	3,945	4,323	4,679	4,956
Union of South Africa.....	15,457	52,736	47,852	50,763	39,883	56,026	64,616	48,441
Other British South Africa.....	35	27	12	15	7	5	6	1
Gambia.....	26	9	29	38	77	60	13	13
Ghana.....	270	980	254	1,749	2,313	1,461	1,481	1,254
Nigeria.....	145	796	865	942	1,452	890	750	1,510
Sierra Leone.....	203	200	159	235	356	598	614	493
Other British West Africa.....	1	1	—	1	33	33	40	24
Belgian Congo.....	89	4,318	5,900	3,349	3,628	3,534	2,786	2,623
Canary Islands.....	17	107	825	23	1	—	3	—
French Africa.....	248	6,748	3,226	1,248	1,204	1,176	1,037	864
Liberia.....	17	1,373	203	3,145	4,071	2,456	1,781	1,553
Madagascar.....	13	102	97	64	41	71	47	31
Morocco.....	711	3,331	4,630	3,809	2,824	1,791	2,028	733
Portuguese East Africa.....	1,675	2,827	2,088	1,997	2,614	2,044	2,197	2,139
Portuguese West Africa.....					323	274	173	219
Spanish Africa.....	9	75	64	59	17	2	11	15
Oceania	43,424	78,955	76,033	53,716	65,212	86,701	71,534	70,885
Australia.....	28,924	49,079	49,697	39,629	45,768	58,482	47,747	48,883
Fiji.....	387	802	519	424	654	1,055	1,121	579
New Zealand.....	12,799	21,757	18,844	7,475	14,807	22,344	17,995	16,964
Other British Oceania.....	25	82	71	64	103	84	118	113
French Oceania.....	80	626	424	487	389	477	482	386
Hawaii.....	1,207	6,418	6,280	5,385	3,222	3,924	3,859	3,752
United States Oceania.....	2	191	198	253	269	335	212	209
Totals, Exports.....	884,536	3,914,460	4,301,081	4,117,406	3,881,272	4,281,784	4,789,746	4,839,094
Totals, Commonwealth Countries.....	443,261	872,407	1,007,533	897,585	848,461	1,006,437	1,055,922	970,648
Totals, United States and Dependencies.....	323,121	2,314,848	2,322,177	2,433,614	2,329,792	2,574,728	2,836,405	2,887,114

¹ Less than \$500.² Southern Rhodesia only.

The proportion of imports subject to duty varies widely between countries and geographic areas. Generally the Canadian tariff imposes duties on a greater proportion of manufactured goods than of natural products. Countries supplying chiefly manufactures to Canada tend to have duties charged on a greater proportion of their goods and also to have relatively higher average *ad valorem* rates of duty charged on their goods than is the case with countries supplying chiefly natural products. Variations in the proportion of imports dutiable as between different countries or in the average *ad valorem* rates of duty charged on imports from different countries therefore do not necessarily indicate differences in the tariff relations between Canada and these countries.

8.—Values of Dutiable and Free Imports, by Leading Countries, 1955-57

Country	1955			1956			1957		
	Dutiable	Free	Total	Dutiable	Free	Total	Dutiable	Free	Total
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
North America¹	2,076,686	1,379,489	3,456,175	2,572,802	1,592,704	4,165,506	2,460,435	1,542,880	4,003,315
United States	2,073,568	1,378,610	3,452,178	2,569,557	1,592,109	4,161,667	2,456,846	1,541,703	3,998,549
Central America and Antilles¹	87,774	48,545	136,319	98,953	63,975	162,928	115,440	47,322	162,762
Barbados	6,091	2,144	8,236	3,002	1,632	4,634	6,215	1,413	7,628
Jamaica	7,289	8,278	15,567	11,808	12,825	24,633	15,888	24,322	40,210
Trinidad and Tobago	1,780	8,060	9,840	2,412	8,639	11,051	3,352	4,853	8,205
Cuba	8,390	1,635	10,025	10,527	1,752	12,279	13,181	685	13,866
Honduras	1,582	85	1,666	6,908	171	7,079	4,527	48	4,575
Mexico	6,527	22,287	28,814	7,227	34,472	41,699	9,525	11,588	21,113
Netherlands Antilles	30,012	711	30,722	37,818	301	38,119	39,259	10	39,269
Panama	8,837	200	9,037	7,566	19	7,585	7,067	131	7,198
South America¹	70,913	202,743	273,657	73,767	231,926	305,693	65,718	275,630	341,348
British Guiana	8,580	9,727	18,307	10,955	9,543	20,498	11,356	9,647	21,003
Argentina	1,649	2,765	4,414	1,451	3,175	4,626	2,396	2,307	4,703
Brazil	21,996	8,751	30,747	25,129	9,703	34,832	23,344	11,981	35,325
Colombia	18,796	3,424	22,220	17,699	5,357	23,056	15,462	2,728	18,190
Ecuador	5,027	160	5,187	4,422	76	4,498	4,421	7	4,428
Venezuela	14,263	173,015	187,277	11,563	196,839	208,401	6,349	241,796	248,145
Northwestern Europe¹	302,350	270,008	572,358	413,806	323,229	737,036	433,011	349,925	782,936
United Kingdom	175,622	224,909	400,531	220,510	264,169	484,679	232,979	288,979	521,958
Belgium and Luxembourg	19,473	9,578	29,051	40,873	11,855	52,728	33,100	10,966	44,066
Denmark	3,068	1,201	4,269	4,174	2,008	6,182	5,577	3,039	8,616
France	17,309	7,707	25,016	24,439	8,161	32,600	27,249	8,933	36,183
Germany, Federal Republic of	42,484	13,119	55,603	68,244	21,104	89,348	77,828	19,818	97,646
Netherlands	14,217	6,734	20,951	16,247	7,529	23,776	16,108	9,288	25,396
Sweden	9,380	2,772	12,152	13,080	4,223	17,303	12,218	3,350	15,568
Switzerland	16,270	3,095	19,365	19,411	2,890	22,301	20,941	3,719	24,660
Southern Europe¹	17,026	10,179	27,204	23,082	10,377	33,459	29,815	12,156	41,971
Italy	13,891	4,611	18,502	19,700	5,266	24,967	26,103	6,909	33,012
Spain	1,639	4,581	6,220	1,800	3,928	5,727	1,788	3,808	5,596
Eastern Europe¹	4,455	1,254	5,709	9,476	1,824	11,300	6,912	4,228	11,140
Czechoslovakia	2,602	278	2,880	5,427	248	5,675	4,409	636	5,045
Middle East¹	1,671	30,095	31,770	1,205	49,137	50,342	1,301	37,203	38,504
Arabia	6	6,980	6,986	13	24,699	24,712	4	34,313	34,317
Lebanon	8	17,912	17,920	3	19,598	19,601	5	38	43
Other Asia¹	40,430	90,703	131,133	60,643	93,901	154,544	64,985	87,103	152,088
Ceylon	739	14,842	15,581	765	15,799	16,564	810	14,106	14,916
Hong Kong	4,421	1,455	5,875	4,735	964	5,699	6,499	724	7,223
India	5,310	29,837	35,147	6,333	24,565	30,898	6,268	22,980	29,248
Malaya and Singapore	193	28,617	28,810	320	28,238	28,558	473	26,882	27,355
China	553	2,573	3,125	565	5,156	5,721	486	4,818	5,304
Japan	27,902	8,816	36,718	46,382	14,445	60,826	48,672	12,933	61,605
Other Africa¹	13,701	17,410	31,112	15,861	19,367	35,227	17,388	20,220	37,608
British East Africa	7,865	5,293	13,158	76	7,214	7,289	18	4,971	4,989
Mauritius and Seychelles	—	—	—	7,757	2	7,758	10,278	—	10,278
Union of South Africa	1,130	5,126	6,255	2,944	5,457	8,401	802	6,058	6,860

¹ Includes other countries not specified.

8.—Values of Dutiable and Free Imports, by Leading Countries, 1955-57—concluded

Country	1955			1956			1957		
	Dutiable	Free	Total	Dutiable	Free	Total	Dutiable	Free	Total
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Oceania¹	22,427	24,506	46,933	22,360	27,054	49,414	28,192	23,546	51,738
Australia.....	10,655	15,640	26,295	10,265	16,045	26,310	14,568	14,160	28,728
Fiji.....	5,016	1	5,016	6,266	1	6,267	7,216	2	7,218
New Zealand.....	3,618	8,698	12,316	1,597	10,724	12,321	2,573	9,197	11,770
Totals, Imports	2,637,435	2,074,935	4,712,370	3,291,955	2,413,494	5,705,449	3,223,197	2,400,213	5,623,410
Totals, Common-wealth Countries	242,870	367,432	610,302	295,266	410,644	705,911	323,810	435,009	760,819
Totals, Other Countries	2,394,565	1,707,503	4,102,068	2,996,689	2,002,850	4,999,538	2,897,387	1,965,204	4,862,591

¹ Includes other countries not specified.

9.—Average Ad Valorem Rates of Duty Collected and Percentage Proportions of Imports from the United Kingdom and from the United States to Totals of Dutiable and Free Imports, 1948-57.

NOTE.—Figures for the years ended Mar. 31, 1868-1939 are given in the 1940 Year Book, p. 532. Calendar year figures for 1939-47 are given in the 1954 edition, p. 982.

Year	United Kingdom					United States				
	Average Ad Valorem Rates of Duty on—		Dutiable to Total	Free to Total	Percentage of All Imports	Average Ad Valorem Rates of Duty on—		Dutiable to Total	Free to Total	Percentage of All Imports
	Dutiable Imports	Total Imports				Dutiable Imports	Total Imports			
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
1948.....	17.1	7.7	9.8	13.1	11.4	15.7	9.1	76.2	60.0	68.5
1949.....	16.2	6.9	9.1	13.4	11.1	16.0	9.0	75.6	65.3	70.7
1950.....	16.6	6.2	9.3	16.3	12.7	16.3	9.0	72.6	61.4	67.1
1951.....	15.8	6.5	8.0	12.9	10.3	16.5	9.5	74.7	62.2	68.9
1952.....	16.5	7.2	7.3	10.9	8.9	16.8	9.6	78.4	63.7	73.9
1953.....	16.1	6.9	8.0	13.2	10.3	17.4	10.3	78.7	67.0	73.5
1954.....	16.4	7.1	7.4	12.4	9.6	17.3	10.5	77.9	65.2	72.3
1955.....	16.6	7.3	6.7	10.8	8.5	17.3	10.4	78.6	66.4	73.3
1956.....	15.8	7.2	6.7	10.9	8.5	16.7	10.3	73.1	66.0	72.9
1957.....	15.8	7.0	7.2	12.0	9.3	16.6	10.2	76.2	64.2	71.1

10.—Values and Percentages of Trade with Selected Overseas Countries via the United States, 1956 and 1957

Country	Imports via the United States				Domestic Exports via the United States			
	1956		1957		1956		1957	
	\$'000	p.c.	\$'000	p.c.	\$'000	p.c.	\$'000	p.c.
North America	—	—	—	—	501	1	170	1
Central America and Antilles² ...	30,706	18.8	30,860	19.0	27,879	20.4	23,584	17.0
British West Indies.....	2,087	4.9	3,185	5.5	790	1.9	1,194	3.0
Costa Rica.....	3,011	77.3	7,270	84.5	1,068	38.9	949	40.1
Cuba.....	3,201	26.1	987	7.1	2,488	16.2	2,490	14.7
Dominican Republic.....	113	8.4	298	23.4	1,216	24.4	1,220	24.3
Guatemala.....	1,571	48.7	1,352	39.0	1,784	59.4	2,032	63.4
Haiti.....	146	8.7	57	3.8	627	21.5	780	34.8
Honduras.....	5,577	78.8	3,404	74.4	694	80.0	691	65.1
Mexico.....	7,062	16.9	7,284	34.5	14,794	37.6	14,330	33.6
Netherlands Antilles.....	479	1.3	660	1.7	793	58.8	729	54.8
Panama.....	6,713	88.5	6,065	84.3	740	9.6	852	2.8

For footnotes, see end of table.

10.—Values and Percentages of Trade with Selected Overseas Countries via the United States, 1956 and 1957—concluded

Country	Imports via the United States				Domestic Exports via the United States			
	1956		1957		1956		1957	
	\$'000	p.c.	\$'000	p.c.	\$'000	p.c.	\$'000	p.c.
South America²	157,848	51.6	201,532	59.0	32,938	32.6	41,254	33.7
British Guiana.....	1,190	5.8	1,398	6.7	39	0.9	113	2.2
Argentina.....	660	14.3	499	10.6	1,142	18.5	7,536	53.1
Brazil.....	5,850	15.4	6,447	18.3	5,215	40.0	6,159	23.9
Chile.....	31	1.8	51	3.1	3,399	76.9	2,854	65.4
Colombia.....	6,503	28.2	3,071	16.9	7,463	42.4	4,985	34.0
Ecuador.....	1,334	29.7	509	11.5	1,501	34.5	1,275	45.8
Peru.....	329	11.6	124	4.4	3,005	26.5	3,264	32.3
Surinam.....	588	15.0	600	15.4	271	28.4	335	40.4
Venezuela.....	141,692	68.0	188,675	76.0	9,227	26.9	13,288	33.4
Northwestern Europe²	2,051	0.3	1,502	0.2	26,520	2.2	25,550	2.1
United Kingdom.....	222	1	317	0.1	7,307	0.9	8,915	1.2
Austria.....	172	4.4	42	0.9	1,306	25.1	921	13.7
Belgium and Luxembourg.....	510	1.0	345	0.8	1,687	2.9	1,598	2.6
France.....	379	1.2	221	0.6	2,546	4.8	1,847	3.2
Germany, Federal Republic of.....	261	0.3	282	0.3	7,138	5.3	3,305	3.5
Netherlands.....	77	0.3	114	0.4	1,460	2.7	1,210	1.7
Switzerland.....	265	1.2	56	0.2	1,107	3.3	1,159	4.6
Southern Europe²	1,031	3.1	1,018	2.4	6,290	12.2	8,762	11.1
Greece.....	33	11.9	22	4.8	787	31.2	1,189	28.9
Italy.....	847	3.4	843	2.6	3,872	10.3	5,156	8.2
Eastern Europe²	188	1.7	201	1.8	697	1.0	970	3.2
Middle East²	28,641	56.9	20,436	53.1	5,248	43.8	5,723	41.5
Arabia.....	15,310	62.0	19,998	58.3	810	41.7	660	39.7
Lebanon.....	11,322	57.8	1	2.3	376	28.5	337	30.2
Turkey.....	129	18.3	104	12.4	645	72.7	264	54.7
Other Asia²	13,420	8.7	14,529	9.6	15,629	7.5	19,844	8.7
India.....	1,145	3.7	794	2.7	1,912	7.4	1,713	5.9
Malaya and Singapore.....	68	0.2	178	0.7	1,717	43.9	1,249	37.7
Hong Kong.....	292	5.1	573	7.9	1,643	23.4	2,219	29.2
Indonesia.....	61	5.3	18	1.9	937	75.4	1,247	76.4
Japan.....	11,630	19.1	12,432	20.2	5,302	4.1	8,239	5.9
Thailand.....	58	5.2	5	0.8	393	20.3	458	22.4
Other Africa²	3,068	8.7	6,533	17.4	25,288	30.5	26,926	40.9
Union of South Africa.....	210	2.5	303	4.4	17,911	27.7	19,440	40.1
Other British South Africa.....	—	—	—	—	4	62.7	3	1
British West Africa.....	916	18.1	3,517	42.1	2,767	94.0	3,227	98.0
Belgian Congo.....	1,555	56.7	2,289	68.6	2,053	73.7	1,782	67.9
French Africa.....	92	4.4	102	4.5	567	54.6	464	53.7
Morocco.....	23	11.6	25	8.6	779	38.4	405	55.3
Oceania²	1,667	3.4	1,399	2.7	12,999	18.2	13,837	19.5
Australia.....	185	0.7	28	0.1	9,532	20.0	10,262	21.0
New Zealand.....	14	0.1	3	1	3,117	17.3	3,165	18.7
Totals.....	238,619	4.2	278,010	4.9	153,988	3.2	171,620	3.5

¹ Less than 0.1 p.c.² Includes other countries not specified.³ Less than \$500.

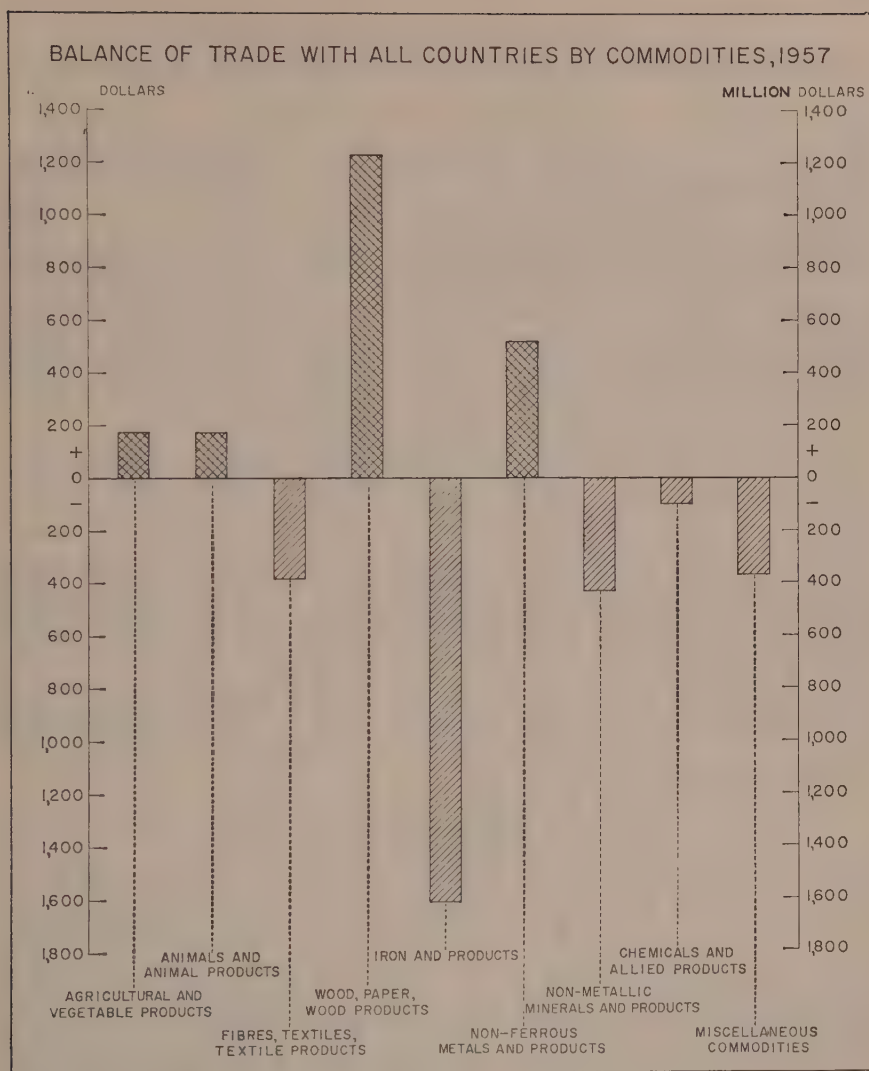
11.—Imports Credited to Countries of Central and South America, by Country of Consignment, 1956 and 1957

Country	1956				1957			
	Consigned from Country Credited		Consigned from United States to Canada	Total Imports as Credited	Consigned from Country Credited		Consigned from United States to Canada	Total Imports as Credited
	Direct to a Canadian Port	Via a United States Port			Direct to a Canadian Port	Via a United States Port		
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Central America and Antilles...	94,232	30,569	38,126	162,928	116,396	30,860	15,506	162,762
Bermuda.....	265	5	4	273	241	6	—	247
British Honduras.....	98	40	32	171	102	75	33	210
Bahamas.....	126	81	13	221	144	15	8	167
West Indies Federation.....	40,477	2,065	28	42,511	55,227	3,170	33	58,430
Barbados.....	4,629	—	5	4,634	7,621	—	7	7,628
Jamaica.....	24,621	1	11	24,633	40,185	17	8	40,210
Leeward and Windward Islands	2,193	—	1	2,193	2,387	—	1	2,387
Trinidad and Tobago.....	9,034	2,005	11	11,051	5,034	3,153	18	8,205
Costa Rica.....	374	3,011	508	3,893	356	7,270	980	8,606
Cuba.....	7,890	3,066	1,323	12,279	11,696	987	1,183	13,866
Dominican Republic.....	305	113	929	1,346	46	298	930	1,274
El Salvador.....	604	337	191	1,133	777	62	473	1,312
French West Indies.....	1	—	—	1	—	—	—	—
Guatemala.....	724	1,570	933	3,227	794	1,352	1,324	3,470
Haiti.....	264	146	1,273	1,683	201	57	1,236	1,494
Honduras.....	63	5,577	1,438	7,079	18	3,404	1,153	4,575
Mexico.....	6,761	7,062	27,877	41,699	7,324	7,284	6,505	21,113
Netherlands Antilles.....	35,298	479	2,342	38,119	38,345	660	264	39,269
Nicaragua.....	133	246	276	655	401	1	154	555
Panama.....	31	6,713	841	7,585	15	6,065	1,118	7,198
Puerto Rico.....	820	117	117	1,054	706	154	112	972
South America.....	121,842	157,848	26,003	305,693	110,912	201,532	28,904	341,348
British Guiana.....	18,974	1,190	333	20,498	19,602	1,398	3	21,003
Argentina.....	2,888	660	1,078	4,626	3,591	499	613	4,703
Bolivia.....	7	1	81	88	88	—	60	148
Brazil.....	19,598	5,350	9,884	34,832	17,932	6,447	10,946	35,325
Chile.....	1,435	31	238	1,704	1,198	51	373	1,622
Colombia.....	8,428	6,503	8,125	23,056	6,254	3,071	8,865	18,190
Ecuador.....	342	1,334	2,822	4,498	419	509	3,500	4,428
Paraguay.....	38	65	39	142	169	79	30	278
Peru.....	1,823	320	623	2,766	2,394	124	281	2,799
Surinam.....	2,801	588	536	3,925	2,656	600	643	3,899
Uruguay.....	500	115	542	1,157	557	79	173	809
Venezuela.....	65,007	141,692	1,702	208,401	56,052	188,675	3,418	248,145
Totals.....	216,075	188,418	64,129	468,621	227,308	232,392	44,410	504,110

¹ Less than \$500.

Section 4.—Trade by Commodities

The tables in this Section provide detailed information on the composition of Canada's imports and exports, with commodities shown by group and individually.



12.—Imports and Exports, by Main Group, 1956 and 1957

Group	Imports		Domestic Exports		Total Trade ¹	
	1956	1957	1956	1957	1956	1957
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
United Kingdom.....	484,679	521,958	812,706	737,539	1,303,111	1,264,644
Agricultural and vegetable products.....	29,927	31,662	308,731	242,028	338,937	273,821
Animals and animal products.....	15,208	15,904	21,669	20,991	37,547	37,408
Fibres, textiles and textile products.....	103,588	102,510	1,880	4,380	105,972	107,267
Wood, wood products and paper.....	6,277	6,638	135,331	142,310	141,716	149,007
Iron and its products.....	162,939	195,572	37,683	42,522	202,590	240,162

¹ Includes exports of foreign produce.

12.—Imports and Exports, by Main Group, 1959 and 1957—concluded

Group	Imports		Domestic Exports		Total Trade ¹	
	1956	1957	1956	1957	1956	1957
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
United Kingdom—concluded						
Non-ferrous metals and their products.....	72,757	64,663	264,336	236,914	337,487	302,191
Non-metallic minerals and their products.....	34,012	30,051	19,207	16,258	53,811	46,987
Chemicals and allied products.....	22,639	23,168	21,283	23,480	43,979	51,795
Miscellaneous commodities.....	37,333	51,790	2,587	3,646	41,071	56,005
United States.....	4,161,667	3,998,549	2,818,655	2,867,698	7,040,681	6,940,225
Agricultural and vegetable products.....	321,765	323,380	199,334	191,715	522,529	516,572
Animals and animal products.....	73,005	71,809	177,468	219,081	253,634	293,589
Fibres, textiles and textile products.....	190,054	209,338	11,304	10,391	203,731	221,720
Wood, wood products and paper.....	205,508	201,223	1,248,918	1,171,903	1,455,496	1,374,289
Iron and its products.....	1,939,666	1,802,039	260,665	268,758	2,226,555	2,107,459
Non-ferrous metals and their products.....	343,180	328,765	535,759	581,668	884,091	916,170
Non-metallic minerals and their products.....	390,618	391,324	224,840	269,654	622,996	670,236
Chemicals and allied products.....	250,365	252,947	84,975	77,963	337,172	333,301
Miscellaneous commodities.....	447,445	417,694	75,392	76,474	534,478	506,889
All Countries.....	5,705,449	5,623,410	4,789,746	4,839,094	10,568,592	10,557,791
Agricultural and vegetable products.....	628,777	652,225	974,964	831,579	1,605,870	1,485,679
Animals and animal products.....	122,154	124,617	260,249	302,051	385,393	430,367
Fibres, textiles and textile products.....	416,390	408,651	22,598	27,162	442,239	438,458
Wood, wood products and paper.....	228,208	225,888	1,514,468	1,458,125	1,743,948	1,683,394
Iron and its products.....	2,231,354	2,131,030	468,894	518,835	2,721,720	2,697,269
Non-ferrous metals and their products.....	491,539	484,863	959,471	1,006,186	1,457,030	1,498,203
Non-metallic minerals and their products.....	765,971	777,661	292,100	347,705	1,066,670	1,138,845
Chemicals and allied products.....	288,586	293,821	182,854	195,303	473,652	491,983
Miscellaneous commodities.....	532,469	524,656	124,233	154,147	671,070	693,592

¹ Includes exports of foreign produce.

13.—Leading Imports, 1939, 1946 and 1954-57

NOTE.—Commodities are arranged in order of value in 1957.

Commodity	1939	1946	1954	1955	1956	1957
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Machinery (non-farm) and parts.....	42,831	120,287	380,219	445,875	628,521	631,599
Petroleum, crude and partly refined.....	39,650	89,483	212,787	229,779	271,291	305,557
Automobile parts (except engines).....	25,308	66,463	180,433	245,505	284,788	260,075
Electrical apparatus, n.o.p.....	27,891	47,788	207,539	226,715	257,292	249,328
Rolling-mill products (iron and steel).....	32,336	53,376	97,563	129,679	231,709	221,257
Pipes, tubes and fittings (iron and steel).....	2,340	8,411	59,680	50,290	123,088	147,727
Tractors and parts.....	15,003	45,620	82,814	115,375	159,627	127,658
Engines, internal combustion, and parts.....	7,096	19,650	84,914	100,917	120,986	123,870
Automobiles, passenger.....	13,725	25,209	60,846	83,726	125,539	106,596
Aircraft and parts (except engines).....	5,550	9,448	100,397	138,091	91,304	93,691
Coal, bituminous.....	19,640	77,052	70,445	74,453	96,516	90,692
Tourist purchases.....	9,487	9,125	68,767	71,467	75,205	77,849
Fuel oils.....	1,650	33,066	70,921	77,754	81,799	76,204
Sugar, unrefined.....	9,983	32,416	51,519	52,312	55,828	75,632
Farm implements and machinery (except tractors) and parts.....	5,915	22,732	60,351	62,874	72,522	74,572
Non-commercial items.....	5,430	14,173	56,763	72,929	83,098	72,328
Cotton fabrics.....	10,935	54,163	46,012	53,400	62,130	65,049
Paperboard, paper and products.....	8,654	18,834	43,558	52,690	61,954	62,027
Coffee, green.....	4,110	15,473	64,214	57,010	62,657	59,120
Principal chemicals (except acids) n.o.p.....	12,321	16,734	46,193	57,677	61,871	54,487
Parcels of small value.....	4,185	14,460	40,637	41,639	49,371	51,982
Synthetic plastics, primary forms.....	2,506	15,386	34,893	41,072	47,092	49,747
Cotton, raw.....	17,176	42,812	52,441	61,031	58,748	49,487
Apparel (except hats) of all textiles.....	6,941	12,222	33,860	39,039	44,793	47,034
Vegetables, fresh.....	6,150	25,748	33,028	38,852	43,694	41,614
Wool fabrics.....	10,408	20,115	32,367	31,948	40,191	40,938

13.—Leading Imports, 1939, 1946 and 1954-57—concluded

Commodity	1939	1946	1954	1955	1956	1957
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Rubber, crude and semi-fabricated.....	12,860	10,013	24,267	44,110	40,610	39,101
Bauxite and alumina for aluminum.....	3,374	8,525	20,064	21,473	24,635	38,831
Cooking and heating apparatus, and parts.....	2,332	10,462	31,557	36,324	41,717	38,265
Gasoline.....	7,998	14,912	34,564	35,831	35,217	37,184
Iron ore.....	4,179	6,467	20,416	31,563	38,722	36,387
Tools.....	2,377	10,135	23,599	26,739	32,779	36,227
Newspapers, magazines and advertising matter.....	8,436	13,434	34,067	34,794	34,435	35,727
Refrigerators and freezers.....	1,189	5,201	38,863	43,935	44,622	35,113
Citrus fruits, fresh.....	8,860	34,632	31,272	29,903	32,596	32,864
Logs, timber and lumber.....	3,767	6,035	23,995	32,773	40,555	31,582
Books, printed.....	4,238	11,272	23,891	26,035	27,950	31,468
Automobiles, freight.....	1,949	6,493	15,134	30,442	45,846	29,327
Medical, optical and dental goods, n.o.p.....	4,035	10,442	22,318	22,952	26,133	28,943
Drugs and medicines.....	3,992	9,440	25,328	25,018	26,560	28,729

14.—Leading Domestic Exports, 1939, 1946 and 1954-57

NOTE.—Commodities are arranged in order of value in 1957.

Commodity	1939	1946	1954	1955	1956	1957
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Newspaper paper.....	115,687	265,865	635,670	665,877	708,385	715,490
Wheat.....	109,051	250,306	375,339	338,216	513,081	380,415
Wood pulp.....	31,000	114,021	271,418	297,304	304,536	292,403
Planks and boards.....	48,829	125,391	324,724	385,313	326,445	281,681
Nickel, primary and semi-fabricated.....	57,934	55,205	182,154	215,169	222,909	248,253
Aluminum, primary and semi-fabricated.....	25,950	51,390	182,392	210,971	234,806	229,386
Copper, primary and semi-fabricated.....	52,396	34,940	127,334	163,924	194,206	162,109
Iron ore.....	43	4,353	39,719	99,814	144,443	152,281
Petroleum, crude and partly refined.....	1	—	6,318	36,253	103,923	140,975
Uranium ores and concentrates.....	..	..	8,056	26,533	45,777	127,935
Asbestos, unmanufactured.....	2,902	23,339	82,566	94,804	99,895	107,895
Barley.....	7,882	9,688	89,363	76,461	94,977	67,522
Farm implements and machinery (except tractors) and parts.....	6,975	28,662	70,819	72,206	63,937	67,239
Whisky.....	7,914	29,650	59,156	60,862	68,660	66,994
Zinc, primary and semi-fabricated.....	9,922	27,659	58,392	70,558	74,011	64,921
Flaxseed (chiefly for crushing).....	1	11	13,717	31,279	43,624	64,719
Fish, fresh and frozen.....	10,212	31,110	56,650	55,263	59,594	63,186
Wheat flour.....	16,378	126,733	88,029	74,442	71,549	61,175
Machinery (non-farm) and parts.....	11,668	16,675	38,172	35,789	47,130	57,677
Fertilizers, chemical.....	9,179	32,108	42,342	56,296	49,211	48,958
Pulpwood.....	10,901	28,731	45,766	48,655	49,794	48,459
Pigs, ingots, blooms and billets (iron and steel).....	2,691	3,328	11,212	33,695	20,749	42,226
Cattle, chiefly for beef.....	13,808	6,652	9,215	3,922	630	41,678
Non-commercial items.....	2,402	39,951	21,054	25,227	34,000	40,954
Aircraft and parts (except engines).....	347	9,507	28,442	19,906	49,545	39,910
Abrasives, artificial, crude.....	4,380	11,727	27,222	26,942	28,389	33,911
Rolling-mill products (iron and steel).....	3,864	7,528	5,393	20,313	25,719	33,043
Ships, sold.....	373	17,856	6,845	4,175	6,863	30,805
Synthetic plastics, primary forms.....	351	2,654	19,994	27,365	26,577	29,642
Lead, primary and semi-fabricated.....	9,850	16,715	40,530	37,194	35,025	29,396
Scrap iron and steel.....	1,021	166	15,868	20,936	30,427	28,620
Platinum metals, unmanufactured.....	6,178	15,450	27,640	26,315	35,656	27,821
Engines, internal combustion, and parts.....	202	1,737	16,077	17,391	17,614	26,735
Fur skins, undressed.....	14,130	30,928	22,997	28,287	25,893	25,944
Electrical apparatus, n.o.p.....	3,229	20,939	22,913	20,700	21,407	25,186
Fish, cured.....	3,884	13,908	23,341	23,939	22,835	24,513
Automobiles, passenger.....	14,394	18,093	7,723	13,165	17,027	22,629
Oats.....	4,142	23,108	32,497	11,930	9,316	22,330
Plywoods and veneers.....	1,608	12,026	21,555	30,104	29,020	22,336
Tobacco, unmanufactured.....	10,183	5,892	18,086	26,547	17,320	21,905

¹ Less than \$500.

Detailed Imports and Exports.—Detailed statistics of all commodities of any importance imported into Canada from all countries, from the United Kingdom and from the United States during the calendar years 1955-57 are given in Table 15 and corresponding statistics for domestic exports appear in Table 16.

15.—Principal Imports into Canada for Consumption from All Countries, the United Kingdom and the United States, 1955-57

NOTE.—Throughout this table certain revisions have been made in 1955 and 1956 figures since they were published in the 1957-58 Year Book. These changes, resulting from revisions in nomenclature or groupings, do not affect the totals.

Item	All Countries			United Kingdom			United States		
	1955	1956	1957	1955	1956	1957	1955	1956	1957
	\$	\$	\$	\$	\$	\$	/	\$	\$
I. Agricultural and Vegetable Products (except chemicals, fibres and wood)									
A. MAINLY FOOD									
Fruits—									
Fresh.....	73,565,602	81,959,266	83,913,279	19,891	15,833	11,569	47,495,523	55,436,660	56,131,942
Dried.....	13,087,864	12,363,692	13,282,650	85,017	58	---	6,292,436	6,699,440	7,313,501
Canned or preserved.....	18,611,013	20,316,256	22,305,153	939,158	1,078,683	1,106,937	8,702,418	10,538,363	12,141,118
Fruit juices and fruit syrups.....	15,244,970	19,126,273	19,671,599	52,687	76,942	116,551	14,012,202	17,704,319	18,227,867
Totals, Fruits.....	121,059,479	133,765,487	139,172,981	1,096,753	1,171,516	1,235,057	76,502,579	90,318,782	93,814,428
Cocoanuts and preparations of.....	2,508,505	3,159,372	3,968,210	26,483	14,850	7,321	510,168	700,824	822,922
Nuts, not shelled and shelled.....	16,236,994	17,772,915	17,671,009	219,825	121,904	107,612	2,927,802	4,024,247	6,080,882
Vegetables—									
Fresh.....	41,127,716	47,827,730	44,175,627	55	23,180	8,978	38,410,005	45,234,069	40,842,304
Dried.....	675,668	905,854	987,367	47,560	82,883	87,172	561,569	712,449	788,711
Canned.....	7,592,552	10,571,160	13,516,245	238,254	228,801	7,305	5,116,228	7,199,358	10,342,561
Pickles, sauces and catapups.....	2,363,577	2,721,603	3,850,472	71,886	74,281	101,843	1,741,417	2,046,575	2,909,604
Totals, Vegetables.....	51,759,513	62,026,347	62,529,711	357,755	409,145	205,298	45,829,219	55,192,451	54,883,180
Grains and Farinaceous Products—									
Grain (including rice).....	33,754,233	44,089,274	44,055,903	29,814	92,045	62,993	31,782,457	40,917,869	41,269,698
Biscuits and other bakery products and prepared foods.....	6,241,993	6,328,153	7,087,512	2,857,062	2,717,153	3,420,105	2,912,504	3,222,445	3,195,179
Milled products and farinaceous products, n.o.p.....	1,422,349	1,690,252	1,490,654	6,821	6,579	2,278	1,313,808	1,548,031	1,357,038
Totals, Grains and Farinaceous Products.....	41,418,575	52,107,679	52,634,069	2,893,697	2,815,777	3,485,376	36,008,769	45,688,345	45,821,915
Oils, vegetable, edible.....	2,987,003	3,393,539	3,630,486	44,492	36,569	92,893	2,265,904	2,856,360	2,731,061
Sugar and Its Products—									
Confectionery, including candy.....	8,495,243	9,007,199	10,102,549	5,117,959	5,002,956	5,373,266	1,998,105	2,545,733	2,851,512
Molasses and syrups.....	4,344,996	4,481,078	5,534,424	185,292	232,266	47,119	936,003	1,441,660	1,677,968
Sugar and sugar products, n.o.p.....	52,669,625	55,183,197	77,311,551	5,912	11,290	16,013	27,131	117,059	13,628
Totals, Sugar and Its Products.....	65,509,864	69,671,474	92,948,524	5,309,163	5,246,512	5,436,428	2,961,839	4,104,452	4,543,108

PRINCIPAL IMPORTS INTO CANADA

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Cocoa beans and cocoa and chocolate preparations	19,883,489	13,630,136	15,354,707	1,312,520	1,678,350	2,109,208	9,107,710	3,555,735	2,637,945
Coffee and chicory	61,693,683	72,357,670	71,509,762	200,908	323,127	189,704	6,280,864	11,248,340	14,156,340
Spices	2,411,055	2,508,589	2,518,000	205,000	330,363	320,029	495,745	533,150	669,099
Tea	25,814,832	24,810,584	24,384,401	2,160,632	1,242,732	2,146,587	50,536	62,440	181,051
Vegetable products, mainly food, <i>n.o.p.</i>	4,808,680	5,255,595	7,528,430	414,223	426,955	583,021	4,223,731	4,603,389	6,641,667
TOTALS, A. MAINLY FOOD	416,071,573	460,059,337	492,851,310	14,502,153	13,945,800	15,918,534	187,164,866	222,878,631	232,983,598
B. OTHER THAN FOOD									
Beverages, Alcoholic—									
Ale, beer, porter and stout	300,243	307,219	423,928	282,765	282,593	326,502	76	218	59,218
Whisky and other distilled beverages	15,823,000	16,596,105	17,741,153	9,176,147	9,502,337	9,963,368	2,214,119	1,648,864	2,018,907
Wines	4,018,662	5,312,921	5,312,921	452,674	509,409	472,344	92,827	141,705	231,244
TOTALS, Beverages, Alcoholic	20,142,805	21,337,775	23,478,002	9,911,586	10,294,339	10,762,214	2,307,022	1,790,787	2,308,899
Gums and resins	6,746,989	8,072,384	7,628,464	175,103	300,862	273,357	5,570,798	6,395,181	6,250,629
Oil cake and oil cake meal	7,103,683	12,392,373	9,201,560	—	—	—	7,098,838	12,390,849	12,200,458
Oils, vegetable, not edible	22,520,198	23,077,398	22,390,080	1,749,635	617,644	—	11,305,409	13,181,473	12,670,909
Plants, shrubs, trees, vines and florist stock	4,670,415	3,710,415	6,492,503	17,217	29,026	25,361	2,438,308	3,229,486	3,593,551
Rubber, crude and partially manufactured	44,110,019	40,069,008	39,100,776	184,451	716,075	388,136	16,422,244	15,754,986	15,893,214
Rubber, manufactures of	30,874,588	36,431,398	32,309,522	2,001,610	2,512,433	3,309,573	25,679,312	30,145,845	26,714,375
Seeds	4,680,184	9,451,305	5,821,209	378,991	1,028,930	111,544	3,303,760	6,504,541	2,817,307
Tobacco, unmanufactured	2,821,996	2,782,264	3,267,362	—	—	172,026	1,883,239	1,915,636	2,457,892
Tobacco, manufactured	2,083,366	1,900,898	2,188,190	258,761	287,494	430,994	1,615,753	1,470,257	1,431,823
Vegetable products, not food, <i>n.o.p.</i>	5,640,050	7,141,376	6,488,897	151,746	193,059	232,158	4,734,122	6,135,559	5,282,149
TOTALS, B. OTHER THAN FOOD	151,403,623	168,117,811	158,373,555	14,839,100	15,980,762	15,743,856	82,348,805	98,885,950	90,396,098
TOTALS, Agricultural and Vegetable Products	567,475,296	628,777,148	652,224,875	29,341,253	29,926,562	31,662,390	269,513,671	321,764,581	323,379,686
II. Animals and Animal Products (except chemicals and fibres)									
Animals, Living—									
Animals, pure bred, for improvement of stock	1,419,868	1,860,837	2,058,624	223,883	235,388	343,390	1,192,493	1,622,460	1,679,806
Common livestock	2,144,581	2,220,819	1,943,731	29,757	109,574	222,331	2,114,824	2,110,277	1,709,162
Animals, living, <i>n.o.p.</i>	1,081,103	1,236,474	1,291,575	5,594	14,829	18,680	873,991	990,185	984,148
TOTALS, Animals, Living	4,645,552	5,318,130	5,293,930	259,234	359,791	584,411	4,281,308	4,722,922	4,373,116
Fish and Fishery Products, <i>n.o.p.</i> —									
Fish, fresh and frozen	1,708,132	2,131,895	2,028,054	19,473	31,860	8,480	896,768	1,190,933	1,120,617
Fish, salted, dried, pickled and smoked	582,721	579,787	696,631	184,909	161,228	217,777	35,094	56,782	73,565
Fish, canned or preserved, <i>n.o.p.</i>	2,389,694	7,710,668	6,590,126	85,084	108,636	112,973	220,257	278,788	223,245
Molluscs and crustaceans	3,066,261	3,563,351	3,260,599	1,136	1,637	—	2,584,963	2,919,523	2,667,810
Sponges and other articles of the fisheries, <i>n.o.p.</i>	1,622,238	2,049,454	2,569,085	3,054	2,495	20,277	1,470,763	1,707,224	1,853,856
TOTALS, Fishery Products, <i>n.o.p.</i>	9,588,464	16,095,155	15,144,495	293,636	306,156	359,507	5,267,775	6,130,250	5,941,093

15.—Principal Imports into Canada for Consumption from All Countries, the United Kingdom and the United States, 1955-57—continued

Item	All Countries			United Kingdom			United States		
	1955	1956	1957	1955	1956	1957	1955	1956	1957
II. Animals and Animal Products— concluded									
Fur skins, undressed.....	20,104,678	19,221,127	20,932,925	2,738,355	3,253,206	2,930,173	14,774,424	13,431,675	14,542,482
Fur skins, wholly or partially dressed, and manufactures of fur.....	4,743,913	4,600,500	4,848,048	570,508	137,310	265,199	3,532,655	3,819,181	3,943,705
Hair and bristles, and manufactures of.....	1,711,647	1,417,589	1,350,450	519,402	580,385	629,165	416,712	521,920	441,517
Hides and skins, raw (except fur skins).....	7,548,611	9,153,659	7,390,254	15,621	15,635	33,257	6,654,242	8,097,936	6,963,276
Leather, unmanufactured.....	9,337,598	10,099,784	9,730,265	4,005,632	4,714,767	4,583,461	4,680,402	4,412,382	4,445,094
Leather, manufactured.....	9,055,459	9,934,298	10,444,011	3,431,805	3,936,226	4,168,977	4,379,881	4,338,648	4,242,033
Meats, fresh and frozen.....	11,298,130	12,570,554	9,929,205	8,183	4,392	1,226	8,128,456	10,443,048	7,135,740
Meats, other, and preparations of meat.....	8,532,120	9,195,544	12,448,164	117,488	148,252	389,097	3,737,442	5,075,752	6,404,430
Milk and its products.....	4,895,093	4,590,193	5,048,516	24,214	47,377	281,395	563,183	752,926	1,016,709
Olus, fish, seal and whale.....	2,522,265	901,993	5,825,087	59,624	120,325	158,782	2,099,815	377,000	328,052
Animal oils, fats, greases and wax, n.o.p.....	3,087,566	4,325,315	6,064,211	145,001	171,926	240,532	2,821,034	4,041,443	5,057,043
Gelatine, edible.....	1,176,839	1,376,838	1,099,505	239,622	325,831	251,660	646,266	767,327	584,057
Sausage casings, cleaned.....	3,176,610	4,911,164	4,751,684	—	151,092	132,231	48,033	49,186	50,295
Animal products, n.o.p.....	6,407,117	8,532,563	7,916,326	821,379	928,892	951,433	4,971,158	6,053,413	6,341,734
Totals, Animals and Animal Products	107,801,622	122,154,323	124,617,076	13,251,005	15,298,163	15,993,506	66,942,786	73,065,039	71,805,976
III. Fibres, Textiles and Textile Products									
Cotton—									
Raw and unmanufactured.....	62,888,442	60,653,081	51,737,361	14,369	2,959	444	42,356,563	31,032,342	46,379,107
Yarn, thread and cordage.....	8,815,337	10,300,040	9,473,995	4,271,157	5,490,058	4,508,011	4,387,576	4,690,838	4,832,493
Piece goods (fabrics).....	53,399,704	62,129,799	65,048,639	5,074,325	5,626,598	6,239,325	40,273,448	44,314,358	46,509,584
Pieces and embroideries.....	2,076,617	1,842,587	1,510,090	156,399	126,674	100,854	792,373	618,171	647,503
Clothing and wearing apparel.....	9,289,263	12,441,204	13,682,518	1,625,716	1,597,622	1,644,898	5,366,585	5,566,781	5,443,052
Cotton manufactures, n.o.p.....	12,708,617	13,443,175	13,423,518	1,346,881	1,356,937	1,198,489	8,933,427	9,223,150	8,896,671
Totals, Cotton.....	149,177,980	160,859,886	154,876,081	12,488,847	14,099,848	13,692,021	102,109,972	95,434,637	112,608,410
Flax, Hemp and Jute—									
Yarn, thread and jute.....	1,923,080	2,046,634	1,855,070	1,284,911	1,364,766	1,142,110	211,402	202,781	145,374
Piece goods (fabrics).....	13,412,259	13,249,072	12,889,371	1,377,760	1,474,094	1,480,230	913,826	1,066,200	900,447
Other flax, hemp and jute and manufactures of.....	7,626,329	9,218,817	8,444,344	2,619,099	2,741,564	2,643,788	2,970,719	3,450,158	3,366,920
Totals, Flax, Hemp and Jute.....	22,961,678	24,514,523	23,188,775	5,281,770	5,580,424	5,266,128	4,095,007	4,748,139	4,412,741

Silk— Piece goods (fabrics)..... Clothing and wearing apparel..... Other silk, and manufactures of..... Totals, Silk.....	4,717,914	6,228,254	6,684,036	97,982	101,868	95,550	3,303,753	3,981,639	4,240,266
	2,125,623	2,094,420	2,189,248	237,640	245,210	221,664	659,950	794,731	808,881
	426,478	353,812	371,420	11,503	13,106	16,843	317,663	268,737	280,860
Wool— Raw and unmanufactured..... Yarns and warp..... Piece goods (fabrics)..... Carpets and rugs..... Clothing and wearing apparel..... Wool manufactures, n.o.p..... Totals, Wool.....	7,270,015	8,676,486	9,244,704	347,125	360,184	334,057	4,281,366	5,045,107	5,330,007
	33,491,834	34,749,839	31,991,943	16,198,256	15,804,621	17,445,231	3,502,367	3,940,118	3,840,406
	4,233,544	3,879,136	3,827,964	3,383,469	3,224,742	3,167,986	124,203	138,589	79,091
Synthetic Textile Fibre— Unmanufactured synthetic textile fibre..... Yarn, twist and thread..... Piece goods (fabrics)..... Clothing and wearing apparel..... Synthetic textile fibre manufactures, n.o.p..... Totals, Synthetic Textile Fibre.....	6,825,513	7,257,213	9,563,880	2,155,271	1,076,988	541,661	4,197,478	5,729,043	8,390,703
	6,902,804	7,647,402	5,835,418	1,109,093	248,872	233,822	5,257,458	4,947,542	4,370,098
	22,415,131	23,569,720	25,336,617	908,016	811,101	823,391	19,846,133	20,378,154	21,290,068
Kapok; manila fibre; sisal, istle and tampico fibres; and other vegetable fibres—not coloured or further manufactured than dried, cleaned, cut to size, ground and sifted..... Grasses and vegetable fibres, and manufactures of, n.o.p..... Mixed Textile Products— Rags and waste..... Cordage, rope, twine, threads, fish nets and nettings, and fish lines, n.o.p..... Oilcloths and other coated or impregnated cloth..... Lace and embroideries, n.o.p..... Hats, caps, bonnets, berets, hoods and shapes..... Clothing and wearing apparel, n.o.p..... Hat braids, hat sweats, etc., for hats and caps..... Totals, Mixed Textile Products.....	4,518,474	5,827,830	6,845,838	1,525,887	2,213,068	2,779,933	7,669,922	6,907,902	6,386,856
	51,506,873	55,762,720	59,711,763	5,015,218	4,702,450	4,754,039	40,857,103	42,873,398	46,260,668
	7,142,955	7,463,070	7,474,769	30,016	66,777	50,102	1,747,117	1,440,297	2,480,441
Other textile products..... Totals, Fibres, Textiles and Textile Products.....	1,147,321	1,257,196	1,085,797	19,507	63,871	83,841	591,065	657,617	348,975
	9,380,744	8,992,374	8,435,853	591,381	586,948	828,813	7,970,423	7,671,432	7,012,934
	5,796,770	6,218,172	5,833,967	2,659,388	2,729,457	2,574,699	1,227,107	962,086	890,994
Totals, Fibres, Textiles and Textile Products.....	17,620,232	18,695,940	17,094,687	5,944,025	4,754,700	4,628,394	10,973,422	12,381,454	11,406,051
	2,181,393	2,394,919	2,341,872	166,693	162,716	203,856	1,377,492	1,571,262	1,524,486
	3,422,314	4,408,056	4,581,843	310,986	393,730	419,719	2,303,681	2,667,039	2,549,445
Totals, Fibres, Textiles and Textile Products.....	2,211,213	2,483,536	2,807,232	77,292	95,595	83,356	1,942,552	2,088,739	2,255,325
	1,014,228	890,148	1,097,909	4,514	7,082	5,017	517,164	510,492	576,182
	41,636,894	44,083,145	42,193,363	9,753,279	8,730,318	8,743,834	26,311,841	27,852,504	26,245,417
Totals, Fibres, Textiles and Textile Products.....	6,336,575	6,760,945	6,229,488	709,484	790,063	763,390	4,643,315	4,874,057	4,559,624
	381,613,345	416,390,051	408,651,029	95,395,637	103,587,941	102,509,949	190,962,460	190,054,174	209,338,192

15.—Principal Imports into Canada for Consumption from All Countries, the United Kingdom and the United States, 1955-57—continued

Item	All Countries			United Kingdom			United States		
	1955	1956	1957	1955	1956	1957	1955	1956	1957
	\$	\$	\$	\$	\$	\$	\$	\$	\$
IV. Wood, Wood Products and Paper									
Wood, Unmanufactured or Partially Manufactured—									
Logs and unmanufactured round timber....	7,957,646	12,414,004	9,884,731	—	—	—	7,955,234	12,411,949	9,883,902
Lumber and timber, <i>n.o.p.</i>	26,506,419	33,057,885	25,279,612	20,878	3,298	4,488	24,668,952	31,070,892	23,855,933
Plywoods, veneers and other sawmill and planing mill products, <i>n.o.p.</i>	4,156,996	6,027,732	5,927,996	2,239	2,536	8,241	1,933,339	3,240,088	2,481,521
Pulpwood and other unmanufactured wood, <i>n.o.p.</i>	3,019,623	4,181,386	3,896,096	243	360	—	2,856,125	3,872,057	3,778,269
Totals, Wood, Unmanufactured or Partially Manufactured.....	41,640,684	55,681,007	44,988,435	23,360	6,194	12,729	37,413,650	50,594,986	39,999,625
Wood, Manufactured—									
Barrels, staves, headings and other cooperage.....	1,648,452	2,218,460	2,130,453	—	—	—	—	—	—
Corks and other manufactures of corkwood or cork bark.....	4,987,408	4,356,169	4,353,159	9,381	9,212	11,713	1,637,760	2,208,877	2,118,622
Wood pulp.....	6,989,204	8,117,220	8,345,109	64,065	71,228	117,077	2,338,703	2,072,676	1,777,787
Fibre, vulcanized, kartavert, indurated fibre and like material, and manufactures of, <i>n.o.p.</i>	1,042,590	1,105,602	1,172,232	—	—	—	—	—	—
Furniture (except of metal), <i>n.o.p.</i>	5,586,791	6,772,678	7,371,259	150,765	192,963	174,094	4,815,631	5,557,356	1,099,746
Manufactures of wood, <i>n.o.p.</i>	7,968,574	10,353,510	11,366,877	550,987	316,187	276,271	6,237,891	8,521,503	9,238,345
Totals, Wood, Manufactured.....	28,223,049	32,923,639	34,739,089	788,219	603,043	596,857	23,034,274	27,532,230	28,403,448
Paper—									
Wallboard and other pulpboards and fibreboards.....	14,839,346	18,762,196	18,580,743	129,798	144,027	191,849	14,460,465	17,872,160	17,671,009
Printing paper.....	3,571,777	4,602,101	4,289,834	273,431	357,142	360,973	3,286,106	4,229,431	3,907,129
Wrapping and packing paper.....	1,568,203	1,981,367	2,885,746	29,803	40,263	38,486	1,515,877	1,921,752	2,822,227
Writing, bond and ledger papers.....	1,095,230	1,330,773	1,169,855	29,369	22,701	15,555	1,050,586	1,289,497	1,142,165
Waste paper of all kinds,.....	1,787,212	2,150,730	1,281,584	—	—	—	1,787,212	2,149,748	1,281,584
Albumentized and other chemically prepared papers for photographers' use, <i>n.o.p.</i>	2,643,860	3,540,753	3,708,616	97,549	86,428	89,440	2,306,788	2,896,400	2,842,138
Cigarette paper.....	1,492,797	1,543,153	1,672,923	3,119	365	363	1,426,976	1,334,245	1,634,704
Cable insulating paper.....	1,535,452	2,015,151	1,598,982	66,922	111,672	31,926	1,468,530	1,835,968	1,528,831
Shipping and other containers of paper-board	4,899,815	5,391,240	5,203,047	41,652	34,878	59,030	4,850,121	5,341,776	5,099,339
and fibreboard.....	19,256,708	20,889,890	21,856,436	1,267,712	1,315,246	1,235,003	17,511,954	18,886,036	19,838,962
Paper, and manufactures of, <i>n.o.p.</i>	—	—	—	—	—	—	—	—	—
Totals, Paper.....	52,690,400	62,217,354	62,248,666	1,929,385	2,113,220	2,006,625	49,664,615	57,757,003	57,668,088

Books and Printed Matter— Newspapers, magazines, charts, maps, music and photographs.....	34,591,319	35,252,580	37,456,561	259,683	323,965	405,271	33,643,972	34,077,351	35,816,469
Printed advertising matter, commercial blank forms, pictorial postcards, and other printed and lithographed matter, n.o.p.....	12,713,753	14,088,222	14,883,310	571,936	610,496	717,699	11,844,608	13,105,023	13,728,021
Bibles and prayer books, psalm and hymn books, text books, and other books and pamphlets.....	26,089,315	28,045,500	31,571,890	2,239,927	2,619,895	2,895,576	21,389,435	22,441,169	25,001,948
Totals, Books and Printed Matter.....	73,404,387	77,386,302	83,911,761	3,071,546	3,554,356	4,018,546	66,883,015	69,623,543	75,146,438
Totals, Wood, Wood Products and Paper.....	195,958,520	223,208,302	225,887,951	5,812,510	6,276,813	6,637,757	176,995,554	205,507,762	201,222,599
V. Iron and Its Products									
Iron ore.....	31,563,361	38,722,103	36,386,788	934	852	—	30,472,008	36,556,207	32,593,452
Ferro-alloys.....	4,755,719	6,226,437	4,978,780	64,014	660,903	296,404	4,411,622	5,100,224	3,972,464
Pigs, ingots, blooms and billets.....	1,899,621	2,905,786	3,784,543	102,729	113,620	40,919	1,784,168	2,573,511	3,740,828
Scrap iron.....	14,355,639	36,290,466	19,307,994	2,662	158	32,372	14,078,275	36,292,249	19,352,433
Castings and forgings.....	12,900,325	15,687,663	17,679,745	4,240,672	5,323,850	7,217,907	8,380,162	10,088,679	10,228,645
Rolling-Mill Products—									
Bars and rods, including rails.....	16,613,647	29,932,605	22,138,894	2,391,707	5,315,900	4,870,311	13,033,861	20,726,460	15,016,063
Sheets, plates, hoop, band and strip.....	75,234,669	123,631,789	116,103,323	4,947,972	11,506,808	10,145,354	67,185,030	100,587,317	100,030,444
Structural iron and steel.....	37,831,082	81,144,708	83,014,372	991,810	4,566,511	5,247,263	29,869,057	49,558,828	54,169,142
Totals, Rolling-Mill Products.....	129,679,398	234,709,102	221,256,589	8,331,489	21,389,219	20,262,928	110,088,848	170,872,605	169,235,649
Pipes, tubes and fittings.									
Wire.....	50,290,410	123,088,298	147,726,933	8,236,405	17,921,886	27,041,752	33,585,513	89,379,918	105,832,020
Chains.....	13,762,723	17,266,173	12,702,265	4,024,694	5,282,036	6,154,179	8,113,934	9,083,739	4,667,569
Engines, Locomotives and Boilers— Engines, internal combustion, for motor trucks, motor buses, fire fighting vehicles, ambulances and lighters, and parts.....	4,522,276	5,619,874	5,141,084	743,985	947,089	982,315	3,538,158	4,240,508	3,501,410
Engines, diesel and semi-diesel, and parts for motor trucks, motor buses, fire fighting vehicles, ambulances and lighters, and parts.....	24,966,278	39,729,131	42,234,122	2,637,262	5,178,056	3,958,444	22,038,884	33,998,475	37,625,794
Engines, automobile and motor vehicle, and parts, n.o.p.....	8,553,226	13,616,851	9,938,925	472,539	689,705	578,513	8,025,567	12,888,466	9,304,692
Engines for aircraft, and parts.....	19,609,424	15,698,808	12,823,585	343,229	455,939	485,478	19,228,939	15,119,243	12,054,748
Engines, locomotives and boilers, and parts, n.o.p.....	33,415,169	32,923,385	35,308,310	9,060,653	5,006,148	8,839,813	24,284,292	27,848,167	26,416,877
Totals, Engines, Locomotives and Boilers.....	23,077,582	30,356,334	38,146,323	1,027,763	841,809	1,097,143	21,896,783	29,463,447	35,180,453
Totals, Engines, Locomotives and Boilers.....	109,621,679	132,324,509	138,451,265	13,541,446	12,173,657	14,959,391	95,472,475	119,317,798	120,582,564
Farm Implements and Machinery—									
Cream separators and other dairy machinery Harvesting machinery and implements, n.o.p.....	5,229,991	6,118,662	6,165,767	119,003	343,212	153,204	4,475,391	4,836,812	5,185,856
Totals, Farm Implements and Machinery.....	7,500,847	9,044,554	9,923,374	45,340	50,130	27,073	7,378,035	8,896,707	9,798,828

15.—Principal Imports into Canada for Consumption from All Countries, the United Kingdom and the United States, 1955-57—continued

Item	All Countries			United Kingdom			United States		
	1955	1956	1957	1955	1956	1957	1955	1956	1957
	\$	\$	\$	\$	\$	\$	\$	\$	\$
V. Iron and Its Products—concluded									
Farm Implements and Machinery—concluded									
Ploughs, drills and other tillage and planting implements.....	9,061,030	8,927,010	9,066,286	78,536	91,095	145,808	8,967,594	8,823,604	8,929,259
Harvesters combined with threshing machines, and parts.....	14,886,474	15,222,762	16,384,583	58,482	73,556	55,548	14,803,911	15,110,500	16,319,625
Seed separation machinery, <i>n.o.p.</i>	1,363,200	1,533,644	1,193,625	—	—	—	1,362,466	1,533,644	1,193,625
Spraying and dusting machines.....	2,713,184	2,142,570	1,796,102	5,927	25,238	18,709	2,675,083	2,088,977	1,761,613
Tractors, internal combustion.....	77,671,351	108,999,659	82,968,977	2,885,095	2,197,935	4,713,830	74,436,152	106,528,902	78,025,602
Parts of tractors, internal combustion, and accessories, including parts therefor.....	37,702,449	50,626,426	44,688,982	353,827	618,336	784,972	37,310,739	49,895,678	43,754,820
Farm implements, and machinery, and accessories, <i>n.o.p.</i>	22,119,024	29,533,118	30,021,915	352,354	328,796	329,268	21,707,426	29,015,768	29,299,546
Totals, Farm Implements and Machinery.....	178,247,550	232,148,405	202,229,611	3,898,564	3,728,298	6,228,412	173,116,797	226,730,592	194,268,777
Hardware and Cutlery—									
Cutlery.....	4,124,711	4,758,153	4,665,648	1,147,680	1,044,583	859,271	1,354,782	1,582,773	1,405,359
Nails, spikes and tacks.....	1,244,778	2,141,910	2,344,252	307,245	369,487	1,422,624	494,136	565,185	502,658
Butts, hinges, bolts, nuts, washers, rivets and screws.....	9,958,982	11,786,081	10,229,765	750,111	1,244,140	1,312,515	8,373,197	9,425,132	8,017,997
Hardware, <i>n.o.p.</i>	5,448,035	5,958,096	6,287,179	906,936	1,063,092	1,129,518	4,225,261	4,518,112	4,603,455
Totals, Hardware and Cutlery.....	20,776,503	24,644,240	23,526,844	3,111,972	3,721,302	4,723,928	14,447,376	16,091,202	14,529,469
Machinery (except agricultural)—									
Sewing machines, washing machines, vacuum cleaners and other household machinery.....	20,283,284	25,258,954	25,797,802	1,830,324	2,253,531	2,651,917	15,853,665	19,620,236	19,741,261
Ore crushers, rock drills, well-drilling and other mining and metallurgical machinery.....	68,723,752	113,436,264	102,860,355	2,076,180	4,749,361	6,851,150	64,970,563	105,759,676	93,333,738
Office or business machinery.....	22,335,097	30,874,962	34,130,074	2,232,329	3,610,242	3,800,185	18,432,907	24,535,447	26,662,341
Printing and bookbinding machinery.....	25,565,468	27,036,223	30,480,423	1,544,058	1,800,463	1,840,611	22,080,270	23,220,355	26,084,195
Air and gas compressing machinery, <i>n.o.p.</i>	8,015,116	13,954,739	15,377,088	322,520	654,016	1,986,401	7,344,076	12,932,038	13,962,826
Bakery machinery and apparatus.....	2,592,195	3,380,628	3,407,593	129,139	111,818	188,193	2,435,168	3,225,598	3,192,934
Cranes, hoists and derricks, <i>n.o.p.</i> , and parts.....	8,040,596	15,263,905	16,993,162	614,769	1,180,580	1,312,339	6,994,749	13,500,691	14,951,697
Ice-making and refrigerating machinery, <i>n.o.p.</i>	6,206,791	7,981,267	7,436,853	134,632	173,904	226,178	6,035,018	7,768,672	7,187,964
Logging machinery.....	14,491,860	19,749,653	12,207,451	5,438	231,676	376,033	14,439,962	19,362,099	11,665,250
Metal-working machinery.....	46,410,942	54,162,930	66,299,401	3,978,293	5,813,182	6,534,147	38,989,287	42,901,184	53,446,150
Motion-picture projectors and other equipment for moving pictures.....	2,810,581	2,761,704	3,383,599	86,152	47,438	52,818	2,620,568	2,560,553	3,115,503
Paper mill machines, <i>n.o.p.</i>	7,330,843	12,843,018	15,136,398	1,486,467	1,187,074	2,996,019	5,709,029	11,351,068	12,525,944
Pumps, power, <i>n.o.p.</i>	9,446,918	12,359,863	12,339,232	565,873	587,357	852,550	8,767,312	11,382,816	11,169,727

Concrete road-paving machines and other equipment for road paving	6,934,922	8,440,354	7,846,905	212,257	130,110	254,310	6,701,944	8,249,223	7,579,406
Sand cast rolls and chilled cast iron rolls, and forged steel rolls	3,098,585	4,683,307	5,024,823	354,059	618,637	540,160	2,744,285	4,061,465	4,387,912
Shovels, power, and parts	22,156,840	34,208,031	26,325,651	732,059	1,247,618	427,462	21,302,031	32,860,530	26,802,135
Yarn, cordage and fabric machinery	14,938,532	20,078,371	23,041,301	1,885,991	2,652,870	3,051,349	12,693,700	16,584,945	18,656,590
Air-conditioning apparatus	7,875,672	15,757,899	15,252,160	197,676	362,013	362,013	13,697,804	15,242,481	14,622,580
Buildings, earthmoving and parts	14,835,067	20,919,477	15,188,093	296,834	439,702	509,282	13,890,807	20,471,500	14,632,795
Conveying equipment and parts	6,834,194	11,511,580	12,240,615	603,218	535,943	1,050,039	5,661,049	10,871,074	10,701,006
Woodworking machinery, and parts, <i>n.o.p.</i>	6,282,632	5,988,331	4,429,906	446,084	544,265	381,204	4,461,689	4,964,834	3,681,918
Machinery, and parts, <i>n.o.p.</i>	122,247,451	167,809,547	176,339,295	10,363,514	10,953,686	12,661,905	107,024,310	190,368,855	154,911,024
Totals, Machinery (except agricultural).....	445,875,328	628,520,977	631,599,390	30,198,733	39,894,315	47,186,361	397,630,903	561,795,340	552,022,896
Stamped and coated products	14,083,308	14,140,452	14,124,264	542,979	420,200	397,344	13,079,019	13,248,586	13,192,016
Tools and hand implements	26,739,006	32,778,745	36,227,277	2,687,480	3,754,791	3,611,868	21,046,347	25,153,770	28,098,945
Vehicles (see also Miscellaneous Commodities)—									
Automobiles, freight, new.....	30,441,633	45,846,338	29,326,889	622,364	756,335	1,154,034	28,634,676	43,389,936	26,481,462
Automobiles, passenger, new.....	83,735,556	125,539,468	106,596,422	15,199,271	23,284,660	31,351,260	63,547,805	88,183,676	55,538,387
Automobile parts.....	246,305,302	284,757,655	260,075,478	3,019,957	3,522,562	4,178,578	243,152,021	280,245,407	254,275,291
Factory and warehouse trucks, motor driven, and parts.....	10,304,704	4,649,734	2,594,352	230,868	82,859	79,829	10,071,207	4,555,032	2,514,472
Fork lift trucks, and parts.....	16,552,738	10,556,520	9,390,128	—	296,576	401,672	10,251,429	8,956,617	8,956,617
Railway cars, and parts.....	6,800,413	12,342,728	15,841,912	264,751	2,368,772	668,543	16,287,694	9,494,717	15,101,562
Vehicles and parts, <i>n.o.p.</i>		10,190,862	7,482,291	3,334,648	4,477,197	3,726,851	3,185,311	6,294,615	3,094,104
Totals, Vehicles (see also Miscellaneous Commodities).....	394,420,446	493,913,335	431,307,472	22,671,859	34,788,961	41,560,767	364,878,714	441,807,812	385,961,905
Ball and roller bearings, and parts.....	14,977,828	20,238,840	20,041,958	1,165,524	1,200,475	1,406,973	11,793,461	16,114,194	15,976,496
Bottles, cylinders, drums, barrels and tanks	3,967,219	6,214,343	5,188,667	366,374	525,545	210,899	3,551,775	5,669,382	6,958,860
Furniture of metal.....	7,609,325	9,106,210	8,003,289	259,689	382,390	266,278	7,292,258	8,610,248	8,214,814
Guns, rifles and other firearms.....	4,411,732	6,721,510	6,300,202	246,283	697,451	230,902	3,797,930	4,297,711	3,611,365
Scales, balances and strength-testing machines	3,574,807	4,264,962	3,847,673	100,641	178,123	199,051	3,206,254	3,845,665	3,361,977
Stoves and other heating and cooking apparatus for electricity, gas, oil, coal, wood or other fuel, and parts.....	36,323,988	41,717,161	38,264,800	730,772	550,384	1,256,566	35,463,438	41,011,841	36,873,799
Valves, iron.....	7,779,693	12,658,652	4,876,351	440,465	586,797	1,110,814	7,291,698	11,814,084	13,457,987
Other iron and steel, and manufactures of.....	73,839,793	91,437,117	87,296,118	6,252,717	8,726,531	10,104,130	65,957,442	79,995,594	72,853,021
Totals, Iron and Its Products.....	1,605,967,680	2,231,354,360	2,131,029,578	111,992,672	162,938,833	195,572,460	1,432,479,175	1,939,666,457	1,802,069,311
VI. Non-ferrous Metals and Their Products (except gold)									
Aluminum—									
Bauxite and alumina.....	25,214,769	29,182,829	44,966,467	8,821	5,071	5,850	1,235,555	1,228,798	5,874,773
Aluminum, and manufactures of, <i>n.o.p.</i>	20,722,079	37,314,617	31,163,400	3,508,140	10,038,653	7,118,049	15,862,412	22,560,580	19,677,701
Totals, Aluminum.....	45,936,848	66,497,446	76,129,867	3,576,961	10,043,724	7,123,899	17,097,967	23,789,378	25,552,474

15.—Principal Imports into Canada for Consumption from All Countries, the United Kingdom and the United States, 1955-57—continued

Item	All Countries			United Kingdom			United States		
	1955	1956	1957	1955	1956	1957	1955	1956	1957
VI. Non-ferrous Metals and Their Products (except gold)—concluded									
Brass—									
Brass valves, plated or not.....	4,027,519	4,811,208	4,413,274	143,737	66,514	126,082	3,637,964	4,406,885	4,016,467
Brass, and manufactures of, <i>n.o.p.</i>	16,181,707	18,547,988	19,266,299	1,223,777	1,919,692	2,058,460	13,381,911	15,746,612	16,181,118
Totals, Brass.....	19,209,226	23,359,196	23,679,573	1,367,514	1,986,206	2,184,542	17,019,875	20,153,497	20,197,585
Copper, and manufactures of.....	5,196,015	12,425,965	8,696,810	698,510	1,779,986	1,217,714	4,492,102	8,543,221	7,205,194
Nickel, and manufactures of.....	5,662,014	6,746,447	5,711,573	320,435	283,285	359,210	4,902,892	6,053,674	4,893,179
Precious Metals—									
Electro-plated ware.....	15,543,409	16,927,199	12,929,005	1,039,161	1,223,430	987,329	12,863,412	13,560,729	10,805,575
Platinum crucibles and other: manufactures of platinum.....	16,865,183	21,347,035	16,704,382	15,519,547	19,139,549	15,197,258	1,342,379	1,914,056	1,570,584
Precious metals, and manufactures of, <i>n.o.p.</i>	1,128,260	2,003,373	2,616,510	501,084	535,371	491,139	520,254	1,317,027	2,017,843
Totals, Precious Metals.....	33,536,852	40,277,607	32,339,897	17,059,792	20,898,350	16,675,726	14,726,045	16,791,812	14,394,003
Tin, blocks, pigs, bars or granular form.....	8,912,544	8,194,367	8,538,741	1,238,199	936,951	704,204	1,824,042	806,849	978,809
Zinc, and manufactures of.....	3,398,849	3,744,010	3,453,826	89,678	167,908	122,914	3,036,305	3,349,930	3,091,895
Alloys, <i>n.o.p.</i>	2,128,580	2,799,896	2,012,397	722,708	1,033,886	635,614	1,162,118	1,622,763	1,204,695
Clocks and watches, and parts.....	10,843,749	12,724,277	13,341,661	369,806	401,252	535,080	2,851,391	2,989,036	2,850,065
Electrical Apparatus, <i>n.o.p.</i> —									
Batteries.....	3,090,472	2,974,981	3,533,594	155,189	263,665	488,301	2,889,715	2,606,574	2,861,762
Dynamos or generators, and parts, <i>n.o.p.</i>	10,225,155	15,629,989	17,058,274	1,094,850	2,783,577	2,241,241	7,743,027	12,593,018	13,894,246
Electric lamps, metal filament.....	2,734,193	2,659,064	3,908,290	28,916	18,451	14,260	2,738,764	2,328,008	3,579,970
Electric motors.....	13,182,484	20,308,042	20,982,355	1,846,402	2,785,056	3,301,900	10,939,568	17,227,653	17,398,628
Telephone apparatus.....	12,222,128	16,477,431	18,127,042	1,889,302	2,208,437	2,465,711	10,180,435	14,124,150	15,449,175
Radio tubes.....	12,633,787	8,894,557	6,495,016	105,053	191,628	110,086	12,323,826	8,479,633	6,051,550
Radio and television sets.....	1,818,641	2,058,572	3,340,098	38,410	97,138	150,576	1,697,122	2,399,538	1,914,165
Radio and wireless apparatus, <i>n.o.p.</i>	76,173,148	58,843,293	45,883,180	5,424,275	6,433,228	5,957,966	69,936,208	51,330,659	38,517,498
Other electrical apparatus, <i>n.o.p.</i>	94,635,025	128,546,560	129,999,377	9,461,024	13,302,152	12,628,527	80,573,588	108,737,026	109,740,706
Totals, Electrical Apparatus, <i>n.o.p.</i>	226,715,033	257,292,489	249,327,826	20,941,420	28,113,332	27,665,598	198,671,253	219,846,259	209,407,700
Gas apparatus.....	1,136,782	2,139,874	2,983,203	159,733	245,716	316,205	942,943	1,822,456	2,571,144
Stereotypes, electrotypes and other printing materials.....	2,207,896	2,261,230	2,562,868	50,747	53,074	83,450	2,124,781	2,173,719	2,439,853

Chrome ore and ores of metals, <i>n.o.p.</i>	1,883,084	3,896,518	10,427,093	2,943	3,161	15,555	517,285	1,288,197	5,550,901
Manganese ore.....	7,338,269	9,137,278	7,519,746	16,338	25,592	29,544	1,948,055	4,105,351	526,499
Buckles, clasps, eyelets, hooks and eyes, done, snap or other fasteners, of metal, coated or not, <i>n.o.p.</i> (not being jewellery); slide, hook- less, or zipper fasteners.....	1,434,152	1,829,797	1,896,122	93,916	128,142	113,729	1,291,442	1,618,069	1,718,209
Articles, <i>n.o.p.</i> , of metal, not made in Canada, for the construction or equipment of ships.....	5,445,397	6,849,469	5,894,052	1,513,551	2,202,555	2,660,354	3,878,052	4,486,005	3,050,760
Other non-ferrous metals, and manufactures of	17,905,993	31,362,751	30,407,265	2,678,236	4,455,003	4,226,325	12,550,868	23,841,885	23,132,268
Totals, Non-ferrous Metals and Their Products.....	398,792,913	491,538,617	484,862,510	50,839,487	72,756,723	64,662,643	289,037,396	343,189,131	328,765,233
VII. Non-metallic Minerals and Their Products (except chemicals)									
Asbestos, and manufactures of.....	4,053,832	5,353,635	5,157,051	610,779	1,377,428	1,683,970	3,334,001	3,731,323	3,210,343
Clay, and Manufactures of—									
Clays.....	4,479,827	5,253,300	5,411,725	734,560	735,108	728,563	3,741,676	4,499,997	4,653,198
Bricks and tiles.....	17,188,113	21,789,090	19,322,180	1,331,591	1,685,214	1,288,461	14,922,190	19,124,283	17,874,118
Pottery and chinaware.....	15,549,406	16,539,972	15,639,972	11,322,980	11,737,127	10,386,507	2,488,684	2,507,211	2,750,132
Clay manufactures, <i>n.o.p.</i>	6,780,737	9,256,700	7,496,297	1,224,032	1,941,377	1,167,031	5,335,100	6,823,668	5,720,459
Totals, Clay, and Manufactures of.....	43,998,083	52,596,062	47,770,174	14,613,163	15,998,826	13,569,562	26,487,650	32,955,159	30,497,907
Coal, anthracite.....	30,190,088	30,080,480	24,605,035	3,689,741	2,404,487	2,445,831	28,500,347	27,655,983	22,159,204
Coal, bituminous, and coal, <i>n.o.p.</i>	76,360,834	98,676,190	93,109,441	13,721	987	—	76,346,943	98,675,203	93,109,441
Briquettes.....	1,536,347	1,581,699	937,679	—	—	—	1,536,347	1,581,699	937,679
Coke.....	11,409,969	13,201,239	17,012,522	3,280	—	2,166	11,406,689	13,200,283	17,010,355
Coal products, <i>n.o.p.</i>	3,448,261	3,772,358	4,557,505	1,039,744	735,120	1,451,435	2,175,999	2,420,849	2,525,375
Glass—									
Tableware, bottles, flasks, lampbuls, and other glass, cut, pressed or blown.....	17,804,856	20,141,358	21,392,947	1,270,633	1,718,658	1,431,212	15,276,255	16,669,840	17,854,182
Plate, sheet and common, colourless window glass.....	18,177,098	21,648,262	17,141,557	4,783,817	5,692,266	4,246,687	7,935,798	7,934,769	7,695,914
Glass, and manufactures of, <i>n.o.p.</i>	8,133,809	9,444,017	10,090,743	615,253	760,633	680,811	6,171,759	6,692,677	6,992,999
Totals, Glass.....	44,115,763	51,233,637	48,625,247	6,669,703	8,171,557	6,358,710	29,383,782	31,297,286	32,523,095
Petroleum and Products—									
Petroleum, crude.....	230,159,135	271,571,304	305,927,296	—	—	—	22,825,527	18,901,328	26,343,126
Fuel oil, <i>n.o.p.</i>	77,675,611	81,798,540	76,195,162	6,233	3,266	5,451	42,864,738	43,330,610	38,201,812
Kerosene, <i>n.o.p.</i>	1,437,002	2,339,654	2,097,643	—	—	—	1,019,489	1,734,724	2,021,988
Gasoline.....	35,819,139	35,207,007	37,180,216	—	—	—	24,285,788	22,806,142	20,968,674
Lubricating oils.....	11,487,666	13,066,148	12,962,437	72,815	88,013	112,159	11,368,582	12,871,490	12,871,999
Petroleum greases and lubricating greases, <i>n.o.p.</i>	1,939,918	2,098,418	2,042,555	7,404	8,664	7,350	1,913,106	2,076,941	2,017,741
Paraffin wax.....	2,689,343	2,890,394	2,831,821	—	—	—	2,583,334	2,511,970	2,499,224
Petroleum products, <i>n.o.p.</i>	12,992,576	15,098,317	16,170,995	30,170	28,285	189,771	12,355,478	14,103,675	15,823,988
Totals, Petroleum and Products.....	374,170,390	423,970,342	455,408,135	117,032	128,228	315,135	118,932,229	118,378,244	126,681,307

15.—Principal Imports into Canada for Consumption from All Countries, the United Kingdom and the United States, 1955-57—continued

Item	All Countries			United Kingdom			United States		
	1955	1956	1957	1955	1956	1957	1955	1956	1957
VII. Non-metallic Minerals and Their Products (except chemicals)—concluded									
Stone—									
Diamond dust and other abrasives.....	14,939,208	18,254,510	18,333,245	1,399,752	2,019,486	1,448,838	12,014,695	13,683,862	14,797,547
Building and paving stone.....	1,300,971	1,251,894	1,477,318	2,007	10,714	1,184	836,532	850,905	1,012,448
Lime, plaster and cement.....	9,936,500	10,788,729	4,256,271	2,102,650	1,269,258	479,599	4,091,132	4,066,247	2,858,994
Phosphate rock.....	4,512,833	5,185,587	5,897,784	—	—	—	4,232,914	4,863,774	5,840,223
Silica sand.....	2,146,088	2,597,302	2,407,633	593	—	—	2,113,042	2,594,932	2,351,770
Roofing granules.....	2,171,234	1,961,971	1,746,903	—	—	—	2,171,234	1,961,971	1,746,903
Stone, and manufactures of, n.o.p.....	5,327,737	6,771,241	5,592,953	219,278	264,523	197,862	3,519,930	4,251,195	3,888,986
Totals, Stone.....	40,334,571	46,781,244	39,712,115	3,724,260	3,563,981	2,127,483	28,979,479	32,272,886	32,496,871
Diamonds, unset.....	9,227,293	8,920,940	8,703,655	1,064,775	1,139,093	1,163,849	2,375,738	1,196,686	1,202,290
Gas for heating, cooking or illuminating, imported by pipeline.....	2,698,272	3,479,610	7,239,684	—	—	—	2,698,272	3,479,610	7,239,684
Salt.....	1,853,850	1,005,746	1,649,217	94,972	36,115	33,312	1,484,893	1,244,033	1,255,761
Sulphur and brimstone.....	9,386,983	11,887,566	9,752,308	—	138	—	9,386,983	11,831,667	9,752,368
Other non-metallic minerals and manufactures of.....	10,869,547	12,850,234	13,421,279	367,642	455,046	899,531	9,520,504	10,697,489	10,722,768
Totals, Non-metallic Minerals and Their Products.....	663,684,063	765,970,972	777,661,107	32,008,812	34,011,962	30,050,964	350,549,856	390,618,410	391,324,449
VIII. Chemicals and Allied Products									
Acids.....	6,997,353	7,340,309	6,910,441	868,224	1,059,525	924,215	5,551,075	5,438,936	5,297,947
Alcohols, industrial.....	1,234,207	1,402,718	1,385,829	845	1,200	609	937,637	1,395,520	1,381,276
Drugs, medicinal and pharmaceutical preparations.....	24,599,475	26,121,052	28,391,509	2,171,544	2,248,959	2,390,884	20,485,853	22,000,424	23,453,328
Dyeing and Tanning Materials—									
Coal-tar products.....	9,117,857	8,704,464	8,764,314	1,212,991	1,297,962	1,243,621	5,598,152	5,275,983	5,376,599
Dyeing and tanning materials, n.o.p.....	3,528,287	3,836,318	3,253,837	575,167	472,756	455,023	1,419,302	1,590,780	1,876,760
Totals, Dyeing and Tanning Materials.....	12,646,144	12,540,782	12,018,151	1,788,158	1,770,718	1,698,644	7,005,454	6,866,763	6,955,359

Explosives.....	2, 011, 468	1, 372, 258	1, 485, 016	243, 430	170, 384	122, 700	1, 652, 361	1, 046, 553	1, 165, 213
Fertilizers.....	12, 695, 290	13, 258, 248	13, 027, 258	43, 008	34, 706	37, 804	10, 805, 593	11, 460, 584	11, 521, 179
Pigments, Paints and Varnishes— Chemical and mineral earth pigments.....	18, 969, 322	20, 516, 977	18, 346, 601	4, 878, 988	4, 880, 841	5, 643, 542	13, 845, 967	15, 357, 545	12, 404, 399
Paints and varnishes, <i>n.o.p.</i>	4, 266, 222	4, 980, 414	4, 754, 469	403, 086	472, 576	430, 230	3, 803, 287	4, 443, 168	4, 251, 111
Totals, Pigments, Paints and Varnishes..	23, 235, 544	25, 497, 391	23, 101, 070	5, 282, 074	5, 333, 417	6, 073, 772	17, 649, 254	19, 800, 713	16, 715, 510
Perfumery, cosmetics and toilet preparations. Soap.....	1, 504, 113	1, 809, 188	1, 830, 990	119, 664	161, 358	141, 390	912, 281	1, 068, 137	1, 060, 432
	1, 801, 585	1, 951, 342	2, 278, 618	114, 032	165, 908	140, 403	1, 347, 458	1, 737, 808	2, 081, 239
Inorganic Chemicals, <i>n.o.p.</i> — Ammonia and its compounds.....	2, 501, 916	1, 959, 912	2, 525, 969	57, 947	58, 839	81, 908	2, 410, 505	1, 835, 264	2, 409, 696
Compounds of bismuth and lead.....	12, 826, 781	13, 471, 590	2, 469, 933	85, 834	84, 344	69, 832	12, 739, 728	13, 389, 557	13, 389, 557
Compounds of bromine, chlorine and iodine	2, 332, 232	2, 104, 682	2, 036, 146	3, 586	2, 766	1, 056	2, 302, 807	2, 081, 413	2, 191, 976
Compounds of calcium.....	1, 499, 216	2, 737, 807	12, 826	126, 647	110, 273	110, 273	1, 326, 429	1, 971, 959	2, 455, 667
Soda and sodium compounds, <i>n.o.p.</i>	17, 141, 688	17, 730, 955	16, 137, 935	3, 189, 341	2, 903, 064	2, 642, 039	12, 980, 748	14, 168, 711	12, 888, 875
Other inorganic chemicals, <i>n.o.p.</i>	4, 666, 347	4, 945, 381	3, 969, 563	1, 328, 038	1, 155, 830	805, 105	2, 993, 055	3, 427, 515	4, 602, 261
Totals, Inorganic Chemicals, <i>n.o.p.</i>	40, 968, 180	42, 384, 125	31, 897, 413	4, 786, 574	4, 331, 490	3, 710, 213	34, 753, 272	36, 874, 419	26, 738, 626
Chemicals and Allied Products, <i>n.o.p.</i> — Glycerine.....	1, 816, 523	1, 413, 285	1, 536, 184	—	—	154, 743	1, 472, 479	1, 413, 285	1, 206, 749
Ink, printing, writing and rotogravure	1, 367, 631	1, 384, 353	1, 575, 762	230, 007	198, 113	265, 951	1, 107, 846	1, 141, 880	1, 255, 037
Butadiene.....	2, 889, 877	5, 226, 447	6, 442, 561	—	—	—	2, 889, 877	5, 299, 447	6, 434, 551
Chemicals for synthetic resins.....	7, 512, 690	9, 828, 605	10, 872, 563	53, 103	17, 192	17, 668	6, 849, 584	8, 767, 061	9, 618, 331
Plastics and products.....	56, 799, 147	66, 030, 187	70, 936, 757	1, 721, 282	2, 046, 784	2, 370, 804	62, 032, 590	62, 943, 711	66, 981, 020
Other chemicals and allied products, <i>n.o.p.</i>	62, 719, 526	70, 956, 151	79, 538, 775	5, 202, 960	5, 099, 296	5, 111, 759	55, 139, 473	63, 113, 028	70, 990, 228
Totals, Chemicals and Allied Products, <i>n.o.p.</i>	133, 105, 394	154, 909, 028	170, 894, 332	7, 207, 352	7, 361, 385	7, 920, 923	121, 491, 849	142, 675, 412	156, 546, 516
Totals, Chemicals and Allied Products	260, 495, 723	288, 586, 441	293, 829, 627	22, 625, 505	22, 639, 050	23, 167, 647	222, 612, 087	250, 365, 269	252, 946, 625
IX. Miscellaneous Commodities									
Amusement and Sporting Goods, <i>n.o.p.</i> — Bagatelle and other game tables and boards	852, 407	1, 119, 384	934, 431	88, 430	102, 505	101, 391	750, 548	1, 000, 234	817, 957
Dolls and toys.....	10, 080, 709	12, 104, 018	11, 756, 549	1, 989, 812	1, 769, 608	2, 035, 914	4, 876, 692	5, 199, 928	5, 313, 556
Films.....	10, 835, 975	12, 109, 210	15, 498, 700	741, 852	1, 141, 433	2, 030, 262	9, 858, 329	11, 716, 803	11, 716, 803
Sportsmen's fishing rods and tackle, <i>n.o.p.</i>	3, 589, 664	4, 099, 711	4, 484, 484	296, 739	266, 651	239, 625	2, 714, 104	2, 938, 958	3, 227, 592
Other amusement and sporting goods, <i>n.o.p.</i>	715, 628	701, 000	820, 521	141, 907	159, 036	134, 934	533, 515	496, 663	598, 752
Totals, Amusement and Sporting Goods, <i>n.o.p.</i>	26, 074, 383	29, 170, 323	33, 494, 685	3, 258, 740	3, 439, 133	4, 585, 129	18, 154, 372	19, 494, 132	21, 674, 660

15.—Principal Imports into Canada for Consumption from All Countries, the United Kingdom and the United States, 1955-57—concluded

Item	All Countries			United Kingdom			United States		
	1955	1956	1957	1955	1956	1957	1955	1956	1957
	\$	\$	\$	\$	\$	\$	\$	\$	\$
IX. Miscellaneous Commodities—concluded									
Brushes of all kinds.....	1,575,647	1,900,569	2,044,287	482,495	604,604	706,651	858,542	961,384	979,574
Packages and containers, not including contents.....	7,599,018	10,743,832	11,861,735	2,680,057	4,027,009	4,160,817	1,863,277	2,382,494	2,677,973
Household and Personal Equipment, <i>n.o.p.</i> —									
Boots, shoes and slippers (except rubber and leather).....	1,419,982	1,302,941	1,294,852	280,302	230,907	230,822	485,631	418,648	466,776
Buttons of all kinds.....	1,428,747	1,653,882	1,612,236	37,306	53,206	43,882	1,054,886	1,218,182	1,161,066
Cases, boxes and writing desks, fancy.....	2,523,331	2,702,779	2,414,195	340,715	356,505	263,049	1,734,043	1,871,557	1,660,712
Ear-telephone sets and appliances for deaf persons, and parts; electronic ear-training apparatus and parts thereof, designed for use by, or for the training of, the deaf.....	1,745,620	2,117,621	2,301,175	7,904	6,690	6,119	1,724,170	2,099,216	2,281,325
Jewellery, <i>n.o.p.</i>	5,511,263	5,802,952	5,329,620	229,827	237,450	211,136	3,399,906	3,449,644	2,880,095
Pocketbooks, portfolios, purses, reticules, card cases, fly books, and musical instrument cases and parts.....	3,936,627	4,737,545	5,290,156	628,286	662,863	742,607	2,605,046	2,943,808	3,200,153
Refrigerators, electric and other, and parts	43,934,819	44,622,419	35,112,753	908,582	916,801	1,110,339	43,024,398	43,682,719	33,461,451
Spectacle and eye-glass frames, and parts for	2,942,919	3,386,976	3,520,150	11,581	19,071	11,298	2,713,923	3,060,164	3,209,022
Trunks, valises, hat boxes, carpet bags and tool bags.....	1,366,962	1,883,166	1,728,091	310,941	317,101	335,796	962,035	1,416,776	1,224,436
Other household and personal equipment, <i>n.o.p.</i>	3,195,062	3,697,670	3,620,784	597,889	836,044	707,134	1,869,148	1,883,409	1,800,077
Totals, Household and Personal Equipment, <i>n.o.p.</i>.....	85,005,332	71,887,951	62,193,962	3,331,333	3,636,638	3,662,192	59,473,186	62,074,068	51,925,143
Musical instruments and parts.....	7,501,729	8,850,759	10,392,328	746,757	819,510	770,652	5,308,618	6,337,670	7,801,408
Scientific and Educational Equipment—									
Cameras and parts.....	5,813,158	6,393,598	7,562,446	41,564	33,531	40,329	3,528,928	3,400,900	3,928,555
Surgical and dental instruments.....	10,031,414	10,660,582	11,665,442	387,547	478,685	531,180	8,580,093	9,030,708	9,562,895
Optical, philosophical and mathematical instruments, <i>n.o.p.</i> and parts.....	4,261,421	5,488,413	4,648,392	356,634	500,066	446,988	3,049,889	3,756,107	2,998,940
Other scientific and educational equipment, <i>n.o.p.</i>	16,185,751	21,299,561	22,707,461	773,293	1,239,133	1,068,778	14,471,597	18,589,908	19,535,933
Totals, Scientific and Educational Equipment, <i>n.o.p.</i>.....	36,291,744	43,782,094	46,573,711	1,559,038	2,251,435	2,087,275	29,630,507	34,777,623	36,056,353

Ships and vessels.....	4,943,884	3,294,955	4,182,227	461,256	286,970	1,540,017	3,963,825	2,414,398	2,472,431
Vehicles, <i>n.o.p.</i> (see also Iron)—									
Aircraft and parts, excluding engines and									
parts.....	133,091,289	91,303,918	93,690,529	13,129,655	6,810,659	14,936,633	124,583,389	84,183,674	78,573,369
Other vehicles, <i>n.o.p.</i>	9,199,705	15,021,215	13,826,986	117,116	135,097	141,990	9,048,082	15,432,711	13,636,151
Totals, Vehicles, <i>n.o.p.</i>	147,290,994	106,325,133	107,517,515	13,246,771	6,948,756	15,078,623	133,631,471	99,616,385	92,209,520
Paintings, statues and other works of art.....	3,674,721	5,633,307	3,955,789	934,022	1,754,010	963,719	1,655,530	2,481,269	1,704,836
Articles for representatives of other countries	1,283,352	1,252,695	1,383,748	103,314	123,679	90,978	761,604	721,911	680,099
Goods returned within five years after having									
been exported.....	10,460,554	10,052,436	9,162,092	586,202	339,234	334,799	8,672,760	9,179,949	8,247,990
Arms and other goods for British Common-									
wealth or NATO countries.....	45,362,801	49,303,504	28,434,819	2,255,593	1,952,143	1,765,758	41,541,913	45,232,100	24,603,552
Rescue apparatus.....	1,379,461	1,975,539	2,123,827	18,892	18,079	15,727	1,558,575	1,947,554	2,094,599
Incidental purchases of Canadians returning									
from other countries.....	71,467,033	75,205,412	77,403,400	1,537,435	1,589,582	1,989,742	68,999,169	72,624,882	74,050,895
<i>n.o.p.</i> , for parental administration in the									
diagnosis or treatment of diseases									
cartridges, metallic and other, and ammuni-	1,359,373	1,573,228	1,922,245	24,003	30,179	32,085	1,323,965	1,533,501	1,880,108
tion, <i>n.o.p.</i>	6,717,240	4,178,887	3,432,650	3,022,107	2,712,701	809,668	3,622,488	1,428,236	2,327,371
Pens, penholders, pencils and rulers.....	2,924,246	2,612,686	3,072,474	52,338	70,625	88,227	2,383,109	2,340,364	2,805,013
Precious stones, and imitations of (except dia-									
monds).....	1,438,618	1,914,871	1,632,018	99,448	201,401	174,470	491,438	548,017	473,953
Settlers' effects.....	25,618,921	31,830,684	41,832,098	3,378,233	4,490,747	10,668,172	15,622,513	18,692,711	18,321,790
Shipments under \$50 in value.....	41,638,548	49,371,409	51,932,276	658,352	1,238,394	1,378,427	40,836,591	47,141,345	49,370,268
Wax, vegetable and mineral, <i>n.o.p.</i> , and wax									
and manufactures of, <i>n.o.p.</i>	2,139,567	2,308,594	2,243,095	17,235	12,120	11,778	662,765	534,560	735,019
All other articles imported.....	15,640,757	18,699,821	17,704,735	810,349	785,974	879,457	12,399,374	14,980,382	14,001,753
Totals, Miscellaneous Commodities.....	539,577,853	532,465,689	524,655,706	39,263,941	37,332,923	51,799,363	452,063,553	447,444,815	417,694,293
Grand Totals, Imports.....	4,712,370,935	5,705,448,993	5,623,410,459	409,539,822	484,678,970	521,957,699	3,452,178,338	4,161,666,638	3,998,549,564

16.—Principal Exports of Canadian Produce from Canada to All Countries, the United Kingdom and the United States, 1955-57

NOTE.—Throughout this table certain revisions have been made in 1955 and 1956 figures since they were published in the 1957-58 Year Book. These changes, resulting from revisions in nomenclature or groupings, do not affect the totals.

I. Agricultural and Vegetable Products (except chemicals, fibres and wood)									
Fruits—									
Apples, fresh.....	6,558,549	6,655,250	6,170,088	2,353,119	2,254,828	2,089,589	3,840,771	3,983,980	2,814,349
Berries, fresh.....	2,740,349	2,797,808	1,903,174	—	—	—	2,740,046	2,797,529	1,992,073
Fresh fruits, <i>n.o.p.</i>	1,578,318	1,531,535	1,456,339	8,604	8,859	10,758	1,565,738	519,364	444,622
Canned or preserved fruits.....	1,462,579	1,348,513	898,143	477,326	490,424	24,430	621,127	516,113	576,051
Fruit juices, fruit syrups, and dried fruits.....	595,286	478,027	459,284	—	—	127	339,006	374,153	229,558
Totals, Fruits.....	12,935,081	11,791,133	9,887,028	2,839,049	2,754,111	2,124,904	9,097,686	8,187,139	5,966,653

16.—Principal Exports of Canadian Produce from Canada to All Countries, the United Kingdom and the United States, 1955-57—continued

Item	All Countries			United Kingdom			United States		
	1955	1956	1957	1955	1956	1957	1955	1956	1957
	\$	\$	\$	\$	\$	\$	\$	\$	\$
I. Agricultural and Vegetable Products (except chemicals, fibres and wood)—concl.									
Vegetables—									
Potatoes (except seed potatoes).....	1,237,714	3,599,311	1,941,512	—	—	—	480,861	1,909,034	502,242
Fresh vegetables, <i>n.o.p.</i>	3,367,723	3,092,496	3,863,836	—	—	—	3,172,476	2,876,369	3,434,438
Canned vegetables, including soups of all kinds.....	1,307,760	1,871,053	1,575,117	275,327	487,304	534,081	289,434	271,160	26,352
Pickles, sauces, cat-sups, and dried vegetables.....	343,675	293,984	228,455	177,415	176,401	138,147	133,479	54,081	19,282
Totals, Vegetables.....	6,256,872	8,856,849	7,408,920	452,742	663,705	672,228	4,076,260	5,110,644	3,982,314
Grains and Farinaceous Products—									
Wheat.....	338,215,621	513,080,944	380,414,579	148,273,743	176,850,499	129,602,375	10,569,185	17,959,376	16,147,396
Grain, other (including rice).....	105,206,830	127,736,219	101,847,963	51,343,890	43,740,774	25,697,685	32,812,926	50,758,826	48,678,616
Flour of wheat.....	74,431,673	71,549,019	61,174,966	18,463,718	21,044,765	20,372,945	1,509,212	1,896,318	2,395,764
Bran, meal and other milled products, <i>n.o.p.</i>	7,609,813	6,472,188	4,718,341	2,508,816	3,245,319	920,183	2,643,200	2,305,200	2,427,929
Bread, biscuits, cereals and other bakery products and prepared foods.....	2,079,751	3,483,765	3,850,975	34,008	30,237	27,796	1,057,407	2,514,909	3,050,465
Malt.....	7,879,619	8,538,722	9,750,860	—	—	285	3,358,523	3,588,106	4,614,981
Totals, Grains and Farinaceous Products.....	535,433,307	730,860,857	561,757,684	220,624,175	244,911,594	176,621,269	51,950,463	79,022,735	77,315,151
Sugar and Its Products—									
Maple syrup.....	1,861,632	1,798,562	1,855,025	167	911	42,408	1,861,294	1,795,805	1,809,148
Maple sugar.....	3,616,440	3,748,236	2,494,428	—	—	—	3,587,118	3,745,276	2,458,128
Sugar and products, <i>n.o.p.</i>	718,173	686,834	689,979	16,424	5,178	26,912	493,260	474,239	377,093
Totals, Sugar and Its Products.....	6,196,245	6,233,632	5,039,432	16,591	6,089	69,320	5,941,672	6,015,320	4,644,369
Coffee, and imitations of									
Tea.....	406,815	1,417,002	234,544	314,703	507,944	—	1,073	610	800
Vegetable food products, other.....	459,729	1,471,839	809,857	—	—	123	457,466	470,630	809,450
Totals, A. MAINLY FOOD.....	943,467	1,232,604	1,440,849	9,140	33,201	28,713	259,461	246,945	433,111
	592,631,516	760,863,916	586,578,314	224,256,400	248,876,644	179,516,557	71,784,071	99,054,023	93,151,848

B. OTHER THAN FOOD

Ale, beer and porter	3,550,958	3,585,982	4,052,544	—	629,553	941	3,332,570	3,318,092	3,831,930
Whisky	60,862,136	68,660,235	66,893,691	528,399	20,375,486	576,318	54,140,776	62,467,350	60,610,206
Oil cake and oil cake meal	15,431,483	20,890,508	17,667,780	15,076,974	3,780,828	16,593,694	62,205	76,687	360,292
Oils, vegetable, not edible	5,475,294	8,327,950	5,985,991	2,224,146	3,780,828	4,851,955	500,509	750,771	712,454
Rubber, and manufactures of	9,822,789	8,327,950	5,985,991	302,200	286,668	147,898	3,808,136	3,990,772	3,879,237
Flaxseed	31,280,208	43,627,968	94,723,234	5,350,653	19,777,082	21,614,614	1,497	6,404	19,652
Seed potatoes	3,646,364	5,600,140	52,374,194	—	—	—	2,072,537	3,835,703	2,248,930
Seeds, n.o.p.	13,818,215	16,445,140	25,370,847	1,595,473	1,300,895	1,704,024	7,927,787	8,609,894	6,647,257
Tobacco, unmanufactured	26,546,809	17,319,638	21,904,836	22,331,530	12,824,478	16,373,852	32,295	3,998	1,060
Tobacco, manufactured	453,386	336,448	64,762	70,108	—	65,778	5,385,671	39,040	49,217
Peat moss and other mosses	5,388,362	6,095,445	6,068,723	68,521	296,699	183,460	6,656,857	6,656,393	6,656,393
Fodders, n.o.p.	7,747,708	8,007,224	8,829,040	—	—	1,073	2,639,020	6,565,750	7,394,197
Hay	3,041,443	3,004,351	4,197,800	—	—	—	3,022,122	4,120,707	3,022,122
Vegetable products, other, not food	2,641,304	2,487,312	3,208,068	342,394	512,102	398,228	1,847,740	1,527,472	2,031,376
TOTALS, B. OTHER THAN FOOD	189,716,459	214,099,666	245,000,820	47,885,102	59,853,959	62,511,835	88,744,393	100,280,448	98,503,372
Totals, Agricultural and Vegetable Products	752,347,975	974,963,582	831,579,134	272,141,502	308,730,603	242,028,392	160,528,464	199,334,471	191,715,220
II. Animals and Animal Products (except chemicals and fibres)									
Animals, Living—									
Cattle, swine, sheep and poultry, pure bred, for improvement of stock	6,164,979	6,936,125	6,162,799	—	1,000	12,200	4,915,109	4,891,581	5,197,163
Cattle, n.o.p.	7,429,001	4,772,754	45,119,651	—	6,000	—	7,263,346	4,613,947	44,963,085
Horses	797,092	698,428	1,389,900	—	14,324	22,776	776,270	687,358	1,364,241
Other animals, living	933,662	540,427	685,552	11,344	—	—	848,171	402,772	503,859
Totals, Animals, Living	15,324,734	12,947,734	53,316,572	11,344	21,324	34,976	13,801,896	10,595,658	52,028,348
Fish and Fishery Products, n.o.p.—									
Fish, fresh and frozen	55,262,810	59,504,357	63,186,480	24	—	110	54,460,478	58,695,581	62,369,836
Fish, salted, dried, pickled and smoked	23,939,408	22,835,086	24,512,513	74	—	—	5,666,752	5,745,023	5,814,043
Fish, canned or preserved, n.o.p.	18,216,584	17,449,760	13,867,643	4,472,905	7,216,381	5,923,751	3,598,157	2,123,003	832,471
Molluscs and crustaceans	20,245,795	20,554,159	20,413,412	317,218	356,570	359,381	19,638,267	19,035,241	19,035,241
Other fishery products, n.o.p.	7,622,903	9,494,960	8,354,024	431,864	486,366	930,165	6,387,694	8,228,799	6,655,196
Totals, Fish and Fishery Products, n.o.p.	125,287,498	129,928,322	130,334,072	5,221,725	8,059,392	7,213,407	89,751,348	94,590,673	95,306,787
Fur skins, undressed									
Fur skins, dressed, and manufactures of fur	28,286,923	25,893,105	25,943,970	4,653,000	4,224,502	4,310,953	23,133,897	20,831,011	20,457,667
Hair and bristles	1,938,027	2,035,763	31,993	31,993	2,888	62,401	1,330,989	1,043,868	937,701
Hides and skins, raw (except fur skins)	946,746	1,065,717	160,380	902,515	902,515	125,513	657,213	791,006	559,742
Hides and skins, raw (except fur skins)	9,751,061	10,225,319	12,130,260	1,382,564	1,757,021	2,061,197	3,259,444	3,691,891	3,264,037
Leather, unmanufactured	7,977,054	8,888,147	9,769,365	1,871,495	1,757,021	1,618,196	3,650,510	4,496,598	4,598,361
Leather, manufactures of	2,174,689	2,446,517	2,098,391	168,402	228,772	156,081	1,446,248	1,592,703	1,149,953

16.—Principal Exports of Canadian Produce from Canada to All Countries, the United Kingdom and the United States, 1955-57—continued

Item	All Countries			United Kingdom			United States		
	1955	1956	1957	1955	1956	1957	1955	1956	1957
II. Animals and Animal Products (except chemicals and fibres)— <i>concl.</i>									
Meats—									
Fresh, chilled and frozen.....	18,299,350	16,472,938	23,920,063	3,404	2,568	4,574	17,429,853	15,716,353	23,452,740
Bacon and hams, shoulders and sides, cured or smoked.....	6,462,881	5,663,090	4,137,740	3,267	63,171	65,651	5,671,803	4,757,405	3,351,674
Meats, other, and preparations of meats.....	16,644,925	14,899,029	9,788,281	58,552	76,408	105,604	12,477,181	11,068,125	6,013,368
Totals, Meats.....	41,407,165	37,035,057	37,846,074	65,223	142,147	175,729	35,578,837	31,541,883	32,817,782
Butter.....	2,837,999	824,417	2,655	357	325	—	—	465	—
Cheese.....	634,211	791,705	320,582	11,676	66,808	—	613,940	719,947	320,582
Casese.....	4,045,411	4,178,143	3,078,527	3,629,666	3,677,059	2,698,881	259,069	282,914	215,650
Milk, processed.....	8,045,409	8,951,786	7,570,725	—	—	—	74,510	85,536	20,891
Milk preparations, <i>n.o.p.</i>	439,155	574,195	303,066	—	—	—	13	—	13,265
Oils, fish, seal and whale.....	2,205,378	2,232,033	935,412	36,430	3,893	84,822	1,212,207	1,076,628	787,298
Animal oils, fats, greases and wax, <i>n.o.p.</i>	3,346,822	4,117,944	5,010,146	283,100	1,382,733	2,095,662	232,278	183,838	415,924
Eggs.....	1,850,948	1,909,882	3,416,653	—	—	6,873	746,704	878,625	363,968
Sausage casings.....	2,360,909	2,201,574	2,471,946	276,704	298,205	341,642	1,204,451	1,300,925	1,410,789
Horse meat, not for human consumption, and animal food, prepared.....	3,123,891	2,410,214	2,069,355	—	—	—	3,111,530	2,388,896	2,068,861
Animal products, <i>n.o.p.</i>	1,637,076	1,787,611	2,649,151	55,324	79,848	14,594	1,391,316	1,375,226	2,343,450
Totals, Animals and Animal Products	263,621,136	260,249,306	302,051,437	17,859,383	21,609,101	20,990,927	151,456,628	177,468,261	219,061,056
III. Fibres, Textiles and Textile Products									
Cotton—									
Cotton rags and waste.....	968,895	4,146,428	1,076,555	187,817	61,651	21,649	578,617	599,243	521,036
Fabrics.....	1,028,144	892,263	1,385,043	15,605	11,022	9,030	63,490	57,179	28,175
Clothing (including socks and stockings).....	693,399	842,105	853,180	102,145	121,942	89,134	130,090	265,440	242,625
Cotton manufactures, <i>n.o.p.</i>	421,039	655,268	657,104	1,867	1,852	1,387	90,335	119,140	132,226
Totals, Cotton.....	3,111,477	3,536,064	3,971,891	307,334	196,467	121,200	862,552	1,041,002	924,062

Flax, Hemp and Jute— Waste bagging and cloth of jute.....	980,401	855,612	652,983	—	—	976,081	855,471	652,983
Flax, hemp and jute products, other.....	179,844	199,255	199,960	—	865	177,207	177,207	186,930
Totals, Flax, Hemp and Jute.....	1,160,245	1,054,867	852,933	76	865	1,153,288	1,046,601	839,913
Wool— Raw wool (includes noils and tops).....	1,376,922	1,742,233	2,120,401	803,758	1,050,133	573,164	600,665	742,039
Wool rags and waste.....	2,942,963	2,083,253	2,495,613	27,668	27,668	832,912	912,076	875,694
Wool fabrics.....	61,920	84,471	39,232	5,911	5,103	53,159	78,230	27,782
Clothing (except socks and stockings).....	1,343,349	1,466,340	1,098,856	2,127	2,094	1,184,929	1,284,795	898,474
Wool manufactures, n.o.p.....	99,577	115,095	135,369	1,000	200	84,609	107,581	89,513
Totals, Wool.....	5,824,731	5,511,392	5,889,511	813,363	1,085,198	2,728,773	2,983,347	2,633,502
Synthetic Fibre— Thread and yarn.....	2,649,839	1,874,664	5,777,830	208,053	40,482	119,013	514,946	236,033
Fabrics.....	966,432	1,108,044	777,491	78,130	54,524	38,245	142,735	95,881
Clothing (except socks and stockings).....	344,584	286,664	291,350	2,174	12,530	13,963	18,746	11,517
Synthetic fibre manufactures, n.o.p.....	334,746	754,609	754,609	2,775	48	58,394	33,023	219,325
Totals, Synthetic Fibre.....	4,295,551	3,682,951	7,601,951	290,032	107,884	229,615	709,450	562,456
Rags and waste, n.o.p.....	623,690	887,337	1,569,010	—	9,488	411,417	611,218	1,147,664
Cordage, rope and twine, n.o.p.....	3,792,958	4,075,217	4,888,593	—	—	2,918,082	3,293,049	3,109,770
Binder twine.....	1,388,634	1,143,513	888,593	—	—	1,388,634	1,143,513	858,533
Felt manufactures.....	611,258	799,350	986,789	31,571	37,442	22,772	10,086	7,230
Clothing, n.o.p., (including socks and stockings, n.o.p.).....	1,223,285	1,100,471	757,187	323,331	413,661	361,898	338,213	209,064
Oilcloth and linoleum.....	149,667	216,682	220,800	—	—	658	2,028	238
Textile products, n.o.p.....	634,630	470,384	384,268	13,574	28,880	179,369	125,664	98,319
Totals, Fibres, Textiles and Textile Products.....	22,816,126	22,568,238	27,162,058	1,779,281	1,879,885	10,257,038	11,304,171	10,390,751

IV. Wood, Wood Products and Paper

Wood, Unmanufactured or Partially Manufactured— Logs.....	3,450,508	3,197,705	3,068,492	479,472	627,477	2,586,527	2,260,242	1,820,319
Pit props.....	3,150,576	2,183,411	2,399,143	2,777,668	1,932,070	2,181,651	363	—
Poles.....	2,680,923	4,798,447	5,592,217	—	2,155	3,622,405	4,777,129	5,258,422
Railroad ties.....	2,083,423	1,711,909	2,178,086	1,867,306	1,300,340	1,695,795	408,509	478,832
Billets and blocks.....	1,789,712	1,555,017	1,774,668	1,787,787	79,981	1,463,953	1,803,787	1,567,949
Planks and boards.....	385,313,000	326,445,303	281,680,951	70,420,022	40,193,498	273,424,353	252,593,642	204,875,822
Timber, square.....	985,984,920	653,571	1,009,080	292,890	794,178	38,759	138,986	195,700
Timber, round.....	1,210,191	1,053,465	1,008,352	—	—	1,201,234	1,051,219	1,007,229
Pickets.....	1,051,053	1,026,957	1,023,448	—	—	1,051,053	1,026,957	1,922,448
Shingles.....	29,145,403	24,546,035	19,393,231	286,158	308,617	28,202,509	23,856,907	18,677,817

16.—Principal Exports of Canadian Produce from Canada to All Countries, the United Kingdom and the United States, 1955-57—continued

Item	All Countries			United Kingdom			United States		
	1955	1956	1957	1955	1956	1957	1955	1956	1957
IV. Wood, Wood Products and Paper—concluded									
Wood, Unmanufactured or Partially Manufactured—concluded									
Veneers and plywoods.....	30,103,676	29,020,281	22,335,667	3,029,448	2,980,221	3,866,270	26,441,478	25,619,223	17,940,115
Christmas trees.....	5,863,523	6,122,603	6,365,227	—	—	—	5,838,728	6,085,985	6,326,706
Pulpwood.....	48,655,140	49,794,173	48,458,767	4,341,016	3,727,177	3,799,206	39,457,420	41,276,505	39,457,652
Spoolwood.....	958,115	1,495,803	1,428,578	587,011	1,069,890	1,109,046	354,025	411,431	319,532
Wood, unmanufactured, <i>n.o.p.</i>	1,130,539	1,362,538	1,276,817	2,815	2,250	—	1,049,768	1,246,501	1,080,796
Totals, Wood, Unmanufactured or Partially Manufactured.....	518,589,009	456,365,563	398,801,722	84,271,583	52,927,804	56,118,482	384,767,794	382,551,386	300,029,339
Wood, Manufactured—									
Wood pulp.....	297,304,079	304,536,197	202,405,102	34,814,098	29,762,020	28,662,202	233,796,779	245,080,531	235,258,142
Doors.....	855,142	1,153,356	696,881	—	556	55	844,611	1,138,785	658,637
Match splints.....	1,193,998	1,141,179	1,476,540	1,097,911	1,018,950	1,365,433	—	—	—
Manufactures of wood, <i>n.o.p.</i>	5,114,850	5,450,552	6,636,871	550,193	532,270	507,867	3,261,124	3,613,180	4,597,566
Totals, Wood, Manufactured.....	304,468,057	312,281,584	301,186,394	36,462,202	31,314,996	30,535,557	237,902,514	249,832,406	240,514,345
Paper—									
Pulpboard, wallboard and paperboard.....	10,728,887	14,020,374	15,589,646	3,105,515	7,425,135	8,749,355	7,039,449	6,058,594	6,386,183
Book board.....	5,917,168	7,137,201	7,227,440	37,394	274,218	288,842	4,463,487	5,148,988	5,244,628
Newsprint paper.....	665,876,987	708,384,822	715,489,761	33,013,480	41,531,514	44,009,073	578,322,418	615,941,551	610,290,208
Wrapping paper.....	3,206,265	2,719,771	3,461,478	685,886	684,954	1,249,456	1,409,225	1,119,264	743,622
Newsprint paper, mutilated or beater stock, and waste paper.....	2,890,533	2,836,158	2,743,563	89,856	422,254	291,200	2,740,965	2,390,757	2,304,518
Paper and manufacturers of, <i>n.o.p.</i>	5,649,137	6,193,619	6,641,458	200,603	533,649	816,749	1,277,395	2,144,976	2,432,459
Totals, Paper.....	694,238,977	741,291,945	751,153,346	37,132,834	50,871,724	55,404,375	595,252,939	632,804,130	627,401,618
Books, newspapers and other printed and lithographed matter.....	3,625,046	4,518,509	4,983,393	116,417	216,350	251,224	3,103,154	3,729,685	3,657,935
Totals, Wood, Wood Products and Paper	1,520,921,069	1,514,457,601	1,456,124,855	157,983,136	135,330,874	142,309,938	1,221,026,401	1,245,917,697	1,171,903,237

V. Iron and Its Products

Iron ore.....	99,814,105	144,442,580	152,281,394	9,013,015	18,500,953	24,283,931	79,713,357	113,516,437	110,179,709
Ferro-alloys.....	13,164,880	21,176,727	18,577,929	3,364,331	5,735,331	5,127,456	9,095,198	14,128,850	11,732,300
Pigs, ingots, blooms and billets.....	33,694,889	20,748,618	42,226,294	6,273,384	11,034,791	1,156,726	24,303,357	16,398,880	12,788,079
Scrap iron.....	20,936,387	30,427,056	28,619,566	5,862,700	3,126,286	2,492,605	6,122,532	11,538,272	8,331,272
Castings and forgings.....	3,993,614	4,216,039	3,306,438	13,046	50	—	3,914,022	3,265,636	3,265,636
Rolling-mill products.....	20,313,001	25,718,617	33,042,540	3,327,703	5,104,249	5,253,353	5,012,676	3,959,092	2,992,923
Tubes, pipes and fittings.....	1,292,617	1,471,908	10,804,700	3,494	22,052	1,896	254,204	489,939	5,296,793
Engines and boilers and parts.....	30,079,730	30,911,717	38,364,509	686,830	205,092	299,648	11,817,859	10,295,068	19,163,298
Farm implements and machinery and parts.....	76,009,839	67,476,731	69,675,968	267,382	324,859	182,256	63,422,809	55,600,423	59,408,273
Hardware and cutlery.....	1,295,744	2,355,351	2,639,087	25,707	2,942,452	2,136	806,702	1,719,787	1,783,944
Machinery and parts (except agricultural).....	35,788,765	47,129,003	57,176,042	1,123,167	2,942,452	2,941,022	10,868,240	18,993,178	22,142,976
Tools.....	1,495,026	1,986,003	2,902,405	11,222	10,821	25,331	199,988	468,943	701,423
Automobiles, freight.....	6,280,788	5,491,076	4,485,365	230,080	103,829	375,728	224,677	13,376	118,437
Automobiles, passenger.....	13,164,837	17,026,501	22,028,003	73,900	303,274	33,129	1,503,400	56,809	82,943
Automobile parts.....	20,332,556	19,969,331	12,961,553	73,900	303,274	33,129	1,503,400	1,887,200	1,887,200
Vehicles and parts, n.o.p. (see also Miscellaneous Commodities).....	6,573,559	3,927,508	6,052,426	14,579	10,666	2,825	2,240,315	2,641,550	4,173,727
Guns, rifles and other firearms.....	14,728,727	6,574,129	5,083,033	386,603	58,397	3,431,458	6,154	11,341	11,341
Lamps and lanterns of metal.....	1,195,325	1,013,759	1,151,012	356	3,310	1,813	1,355	2,021	1,747
Stoves and heating apparatus and parts.....	1,351,376	1,546,013	1,562,114	73,653	112,516	137,544	222,316	167,904	184,932
Other iron and steel, and manufactures of.....	7,876,659	11,188,200	10,302,657	121,110	238,771	191,684	2,150,820	4,788,962	4,787,413
Totals, Iron and Its Products.....	398,783,425	458,848,742	518,835,259	30,485,891	37,683,031	42,522,465	225,314,722	260,664,644	268,757,830

VI. Non-ferrous Metals and Their Products (except gold)

Aluminum, and manufactures of.....	212,726,745	236,163,492	230,495,287	99,056,835	107,884,569	78,967,570	84,408,695	97,276,215	101,202,986
Brass, and manufactures of.....	7,849,060	6,574,129	5,083,033	386,603	58,397	3,431,458	6,154	11,341	11,341
Copper, and manufactures of.....	175,046,866	205,409,681	169,218,124	52,829,453	56,479,351	59,877,183	102,592,425	71,630,960	71,630,960
Lead, and manufactures of.....	37,217,360	35,046,254	29,431,868	12,946,092	13,487,122	16,908,385	12,681,428	12,681,428	12,681,428
Nickel.....	215,168,909	222,908,786	248,253,042	40,156,734	41,941,406	46,373,568	145,828,592	143,512,493	152,870,927
Precious metals, and manufactures of (except gold).....	46,832,272	55,558,202	45,828,929	15,274,443	20,570,661	17,646,814	30,622,515	33,432,221	26,642,095
Zinc, and manufactures of.....	74,232,108	65,118,122	20,286,808	15,790,440	19,566,871	47,570,535	54,737,167	41,978,491	41,978,491
Clocks and watches and parts.....	692,645	1,031,821	1,071,315	11,595	12,990	—	38,933	121,742	121,742
Electrical apparatus, n.o.p. (including radio and wireless).....	20,700,255	21,407,282	25,185,918	150,979	220,857	583,375	7,503,338	10,012,573	7,224,709
Printing materials.....	287,026	249,795	359,027	29,554	9,968	12,057	236,376	20,231	339,751
Uranium ores and concentrates.....	26,533,031	45,776,875	127,831,804	391,132	419,320	528,908	11,373,680	45,776,875	127,831,804
Ores, n.o.p.....	14,606,596	20,420,996	25,621,009	283,022	283,022	87,900	3,178,553	13,426,082	17,371,743
Cobalt metal.....	3,461,575	3,546,025	4,102,211	287,317	287,317	21,182	3,215,625	3,546,025	3,546,025
Metallic scrap, dross and ashes, n.o.p.....	6,049,536	6,087,269	4,634,118	902,035	38,295	1,082,519	1,262,256	3,695,030	3,534,383
Cadmium.....	2,275,472	2,824,485	2,918,645	2,721,787	1,798,469	1,262,256	1,200,094	1,706,649	1,647,608
Magnesium.....	4,887,980	5,153,509	4,535,570	2,721,787	1,798,469	1,262,256	1,200,094	1,706,649	1,647,608
Selenium and salts.....	2,585,689	6,342,718	2,739,020	1,051,431	2,573,205	1,262,256	654,074	58,501	87,603
Other non-ferrous metals, and manufactures of.....	6,248,588	10,647,663	13,355,768	1,356,848	1,846,844	816,445	3,562,055	3,395,348	4,421,117
Totals, Non-ferrous Metals and Their Products.....	852,922,799	959,471,130	1,006,185,815	247,782,668	264,335,621	236,914,263	470,222,560	535,750,445	581,668,490

PRINCIPAL EXPORTS OF CANADIAN PRODUCE

16.—Principal Exports of Canadian Produce from Canada to All Countries, the United Kingdom and the United States, 1955-57—concluded

Item	All Countries			United Kingdom			United States		
	1955	1956	1957	1955	1956	1957	1955	1956	1957
VII. Non-metallic Minerals and Their Products (except chemicals)									
Asbestos, and manufactures of	97,705,882	103,638,075	108,938,506	9,476,516	10,036,464	8,009,188	55,531,776	55,121,512	52,314,087
Clay, and manufactures of	2,653,695	3,340,932	4,342,169	2,923	1,512	2,183	1,748,227	2,304,911	2,615,026
Coal	4,870,598	4,710,030	3,357,959	2,007,945	1,847,775	—	2,655,106	2,710,961	3,049,822
Coke	2,464,581	2,478,878	3,088,164	506,717	571,205	661,468	1,556,987	1,529,132	1,668,902
Coal products, n.o.p.	507,614	941,611	1,245,554	—	—	—	941,540	1,211,478	1,211,478
Glass, and manufactures of	2,706,305	1,505,740	1,155,035	518	430	2,645	2,344,529	1,080,277	722,187
Petroleum and its products	39,919,414	114,948,124	155,106,027	4,177,660	3,781,824	15,442	39,490,736	111,167,333	149,544,981
Abrasives	27,460,339	29,181,758	34,652,793	487	4,130	3,358,393	22,884,466	24,723,806	30,708,849
Lime, plaster and cement	8,751,430	9,736,675	12,834,095	46,987	34,704	2,518	8,656,276	9,659,901	12,688,667
Stone and its products, n.o.p.	6,926,632	8,318,354	9,845,169	46,987	34,704	803,799	5,825,890	6,894,669	6,416,160
Carbon and graphite electrodes	2,945,511	2,802,932	3,666,570	1,648,696	2,258,832	3,366,300	51,700	58,327	65,542
Salt	1,000,501	2,256,830	3,241,119	1	1	—	988,489	2,279,852	3,234,474
Gas exported by pipeline	1	1	2,322,434	—	—	—	1	1	2,322,434
Other non-metallic minerals, and manufactures of	8,287,124	8,209,928	3,848,404	480,462	669,442	36,317	7,198,107	6,387,356	3,090,885
Totals, Non-metallic Minerals and Their Products	296,199,646	292,099,867	347,705,198	13,548,911	19,207,318	16,255,253	149,439,625	234,839,607	269,654,094
VIII. Chemicals and Allied Products									
Acids	1,872,877	2,180,461	4,112,615	298,871	203,715	501,592	1,369,430	1,891,573	2,923,723
Alcohols, industrial	762,045	482,988	404,614	81,246	297,996	251,702	530,251	177,530	30,968
Drugs, medicinal and pharmaceutical preparations	4,247,962	5,349,076	6,834,761	16,032	33,078	20,377	683,862	1,686,587	1,342,000
Fertilizers	56,296,164	49,210,559	48,658,452	51,308	372	372	44,575,301	41,920,478	38,676,112
Paints and varnishes	1,724,144	2,058,817	1,708,474	1,683	1,658	6,119	1,031,316	1,251,842	844,569
Calcium compounds	2,805,619	2,025,369	7,203,438	1,585,895	653,753	1,781,287	99,673	161,120	3,182,982
Soda and sodium compounds	8,291,702	6,878,198	7,86,038	2,207	203,414	—	6,731,443	5,087,357	655,767
Coat oxides and cobalt salts	2,894,384	2,315,141	1,102,902	2,864,130	2,310,741	1,101,082	25,732	4,400	—
Inorganic chemicals, n.o.p.	561,259	1,266,452	1,769,575	116	—	475	555,113	1,281,228	751,115

Plastics and products.....	21,577,140	21,984,361	25,313,795	2,468,863	1,132,315	3,744,890	1,123,619	2,610,552	1,994,764
Polystyrene.....	7,009,108	6,174,136	6,843,502	460,107	1,652	56,938	45,854	4,461	2,817
Chemicals and allied products, <i>n.o.p.</i>	75,464,636	82,898,539	91,203,037	12,114,452	16,444,281	21,015,202	28,413,885	28,897,572	27,458,665
Totals, Chemicals and Allied Products	183,507,040	182,854,337	195,303,193	19,944,870	21,282,503	28,450,036	85,191,429	84,974,700	77,963,472
IX. Miscellaneous Commodities									
Toys, dolls and other amusement and sporting goods, <i>n.o.p.</i>	958,980	1,349,352	1,812,323	53,089	41,056	19,051	654,534	999,915	1,428,591
Business.....	295,966	1,144,352	125,682	99	—	—	142,669	14,357	3,302
Containers, <i>n.o.p.</i>	3,612,038	3,730,965	2,608,523	34,122	11,138	15,926	477,515	46,286	412,165
Household and Personal Equipment, <i>n.o.p.</i> —									
Pens, pencils and pens.....	1,106,325	1,177,758	998,312	227,723	116,890	200,608	19,359	51,708	39,891
Power-operated refrigerators and parts.....	529,379	398,064	366,268	354	641	1,952	151,195	40,407	50,683
Other household and personal equipment, <i>n.o.p.</i>	613,194	799,617	931,773	45,653	61,630	52,718	119,521	155,551	203,467
Totals, Household and Personal Equipment, <i>n.o.p.</i>.....	2,248,898	2,375,379	2,296,353	273,730	179,161	255,278	290,075	247,686	294,041
Musical instruments and parts.....	621,746	655,539	827,682	2,934	1,626	3,179	579,926	596,094	780,136
Carettes, films and other philosophical and scientific apparatus.....	5,507,320	6,343,706	7,702,018	549,973	579,424	564,900	1,840,126	1,894,493	2,537,670
Ships and vessels and materials for ships.....	6,310,700	8,517,820	32,145,523	1,291	3,226	675,168	1,998,058	1,711,784	1,286,089
Aircraft and parts.....	19,905,785	49,544,807	39,910,214	188,274	156,526	257,698	17,490,030	28,611,138	16,387,495
Vehicles and parts, <i>n.o.p.</i> (see also Iron).....	185,232	178,626	151,231	—	—	—	140,974	154,687	124,012
Cartridges.....	3,565,156	226,257	126,098	2,228	168	—	3,437,689	18,305	18,650
Contractors' outfits and supplies.....	1,771,126	4,696,455	5,601,716	—	—	—	—	988,274	1,560,543
Electric energy.....	10,615,715	15,194,769	19,166,842	—	—	—	10,612,308	15,322,877	19,164,887
Settlers' effects.....	21,908,435	27,697,238	33,663,823	1,540,111	1,443,412	1,568,759	16,642,275	22,337,317	27,309,412
Gifts and donations.....	1,547,585	1,606,477	1,688,922	130,901	149,175	202,115	125,958	130,767	112,492
All other articles exported.....	1,611,335	1,970,969	6,319,884	10,244	22,226	83,961	1,473,040	1,838,055	5,324,757
Totals, Miscellaneous Commodities.....	80,666,017	124,232,890	154,147,444	2,787,006	2,587,138	3,646,035	55,905,975	75,392,014	76,474,252
Grand Totals, Exports.....	4,281,784,253	4,789,745,693	4,839,094,393	769,312,648	812,706,074	737,530,398	2,558,342,842	2,818,655,010	2,867,608,402

¹ Included with "Other non-metallic minerals, and manufactures of".

Section 5.—Imports and Exports by Degree of Manufacture, by Origin and by Purpose

The tables in this Section present Canada's trade according to three alternative classifications other than the classification by component material used in Section 4.

17.—Imports according to Degree of Manufacture, by Leading Countries, 1956 and 1957

Country	1956			1957		
	Raw Materials	Partly Manufactured	Fully or Chiefly Manufactured	Raw Materials	Partly Manufactured	Fully or Chiefly Manufactured
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
North America¹	488,491	173,038	3,503,977	490,191	147,290	3,365,834
United States.....	488,181	173,014	3,500,472	489,950	147,187	3,361,412
Central America and Antilles¹	88,031	24,599	50,297	73,990	35,768	53,004
West Indies Federation.....	20,346	15,612	4,359	27,387	23,648	5,007
Barbados.....	—	2,680	1,973	—	5,867	1,761
Jamaica.....	12,430	10,906	1,897	23,663	14,908	1,639
Trinidad and Tobago.....	7,916	2,046	1,089	5,724	2,873	1,007
Cuba.....	2,328	6,448	3,503	1,354	9,722	2,789
Honduras.....	7,068	11	1	4,562	2	13
Mexico.....	38,456	292	2,951	16,683	367	4,062
Netherlands Antilles.....	155	—	37,964	—	—	39,269
Panama.....	7,573	—	11	7,190	1	7
South America¹	274,272	10,273	21,149	313,801	10,749	16,790
British Guiana.....	9,343	9,375	1,779	8,954	10,345	1,705
Argentina.....	2,136	78	2,413	1,818	35	2,850
Brazil.....	30,732	745	3,355	31,158	246	3,921
Colombia.....	22,973	1	82	18,140	22	28
Ecuador.....	4,471	2	25	4,407	3	18
Venezuela.....	197,106	—	11,295	242,012	—	6,133
Northwestern Europe¹	23,468	51,548	662,020	19,946	47,848	715,142
United Kingdom.....	13,328	44,405	426,946	11,819	41,024	469,115
Belgium and Luxembourg.....	782	3,535	48,411	690	2,833	40,544
Denmark.....	1,249	14	4,920	1,923	13	6,676
France.....	335	1,205	31,060	621	1,019	34,542
Germany, Federal Republic of.....	3,876	709	84,763	1,036	770	95,841
Netherlands.....	3,071	1,374	19,331	3,225	1,898	20,271
Sweden.....	517	133	16,653	264	84	15,221
Switzerland.....	87	3	22,211	77	2	24,583
Southern Europe¹	1,815	3,135	23,508	3,014	3,306	35,652
Italy.....	1,207	1,560	22,200	2,252	1,582	29,179
Spain.....	344	1,399	3,385	643	1,507	3,446
Eastern Europe¹	1,199	1,189	8,913	3,011	495	7,635
Czechoslovakia.....	137	10	5,528	16	2	5,029
Middle East¹	47,258	178	2,906	35,547	106	2,852
Arabia.....	24,709	—	3	34,315	—	2
Lebanon.....	19,588	—	13	1	—	43
Other Asia¹	37,275	14,821	102,448	33,308	14,981	103,795
Ceylon.....	1,064	3,619	11,881	1,048	2,617	11,251
Hong Kong.....	1,227	25	4,447	896	43	6,284
India.....	3,290	284	27,323	2,013	172	27,063
Malaya and Singapore.....	22,360	5,811	387	21,217	5,724	415
China.....	2,467	14	3,240	2,368	20	2,916
Japan.....	3,872	2,443	54,511	3,355	3,559	54,691
Other Africa¹	19,146	13,313	2,768	20,624	13,634	3,350
British East Africa.....	6,220	14	1,056	4,067	34	888
Mauritius and Seychelles.....	5	7,753	—	—	10,278	—
Union of South Africa.....	2,834	4,155	1,412	3,207	1,770	1,882
Oceania¹	-16,008	19,029	14,376	12,191	23,592	15,955
Australia.....	8,127	8,367	9,816	4,993	12,383	11,352
Fiji.....	—	6,265	2	—	7,215	3
New Zealand.....	7,755	4,173	393	6,998	3,913	859
Totals, Imports	996,963	311,122	4,397,363	1,005,625	297,768	4,320,017

¹ Includes other countries not specified.² Less than \$500.

18.—Exports of Canadian Produce according to Degree of Manufacture, by Leading Countries, 1956 and 1957

Country	1956			1957		
	Raw Materials	Partly Manufactured	Fully or Chiefly Manufactured	Raw Materials	Partly Manufactured	Fully or Chiefly Manufactured
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
North America¹	697,322	1,019,072	1,106,965	848,670	926,323	1,097,225
United States.....	696,387	1,018,914	1,103,354	847,686	926,186	1,093,737
Central America and Antilles¹	8,323	15,610	112,866	7,744	20,578	139,964
West Indies Federation.....	3,791	1,681	28,962	3,615	1,533	30,814
Barbados.....	408	686	5,627	443	614	3,668
Jamaica.....	1,801	406	16,515	1,223	485	17,769
Trinidad and Tobago.....	2,082	689	9,820	1,949	424	9,457
Cuba.....	367	1,845	13,159	457	1,744	14,689
Dominican Republic.....	245	186	4,554	299	198	4,526
Mexico.....	1,535	6,731	31,119	1,198	10,781	30,634
Panama.....	81	54	7,613	53	152	30,460
Puerto Rico.....	1,039	2,973	6,409	1,057	3,914	7,638
South America¹	13,134	15,201	72,773	12,683	19,142	90,715
British Guiana.....	724	96	3,532	891	223	3,955
Argentina.....	112	2,960	3,111	178	2,195	11,826
Brazil.....	353	3,366	9,308	416	6,493	18,888
Chile.....	41	1,027	3,352	18	809	3,534
Colombia.....	967	2,351	13,771	824	3,063	10,741
Peru.....	4,286	1,440	5,612	2,799	1,532	5,777
Venezuela.....	3,545	2,399	28,391	6,142	3,408	30,293
Northwestern Europe¹	605,626	395,628	229,396	548,708	383,719	256,417
United Kingdom.....	330,726	324,761	157,219	280,267	291,520	165,743
Austria.....	1,670	1,861	1,683	2,829	2,361	1,522
Belgium and Luxembourg.....	42,905	6,709	8,238	36,136	7,705	16,561
France.....	16,434	19,255	17,467	16,730	21,694	19,083
Germany, Federal Republic of.....	91,746	27,084	15,267	88,974	36,762	26,203
Ireland.....	6,209	1,222	2,713	5,163	1,117	2,119
Netherlands.....	35,887	8,668	10,004	50,598	10,630	8,621
Norway.....	54,738	239	2,706	50,742	736	4,070
Sweden.....	2,712	1,931	3,251	1,917	5,937	4,257
Switzerland.....	21,349	3,212	8,975	14,647	4,253	6,145
Southern Europe¹	18,922	19,468	13,163	23,500	37,907	17,317
Italy.....	14,202	15,267	8,276	18,920	32,497	11,424
Spain.....	261	2,727	2,065	282	3,400	2,233
Eastern Europe¹	69,882	1,264	1,700	25,710	636	4,429
Czechoslovakia.....	24,373	73	111	75	56	1,291
Poland.....	17,788	113	17	16,207	235	228
Union of Soviet Socialist Republics.....	23,726	710	169	9,087	2	1,569
Middle East	2,056	2,728	7,203	3,480	2,828	7,489
Other Asia¹	85,908	45,169	76,001	95,345	53,895	77,983
India.....	138	7,341	18,235	5,316	9,077	14,599
Hong Kong.....	946	793	5,287	691	1,233	5,670
Pakistan.....	1,595	16	8,891	1,991	904	8,500
Japan.....	82,852	34,728	10,290	86,973	38,480	13,699
Philippines.....	82	886	17,093	127	1,160	16,253
Other Africa¹	10,034	15,104	57,695	950	18,043	46,810
Federation of Rhodesia and Nyasaland.....	698	2,382	1,599	461	1,929	2,566
Union of South Africa.....	8,915	10,623	45,079	304	13,588	34,549
Oceania¹	1,571	20,585	49,379	1,762	21,845	47,278
Australia.....	1,406	15,234	31,108	1,545	17,777	29,561
New Zealand.....	29	3,071	14,894	135	2,602	14,227
Totals, Exports	1,512,776	1,549,829	1,727,140	1,568,551	1,484,916	1,785,627

¹ Includes other countries not specified.

**19.—Imports according to Origin, by Group and Degree of Manufacture,
1956 and 1957**

Origin	1956			1957		
	United Kingdom	United States	All Countries	United Kingdom	United States	All Countries
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Farm Origin						
CANADIAN FARM PRODUCTS—¹						
Field Crops—						
Raw materials.....	1,333	122,457	131,830	458	118,643	128,482
Partly manufactured.....	114	12,079	12,948	14	9,669	10,462
Fully or chiefly manufactured.....	23,955	44,201	80,723	24,579	48,856	87,568
Totals, Field Crops.....	25,403	178,736	225,501	25,051	177,168	226,511
Animal Husbandry—						
Raw materials.....	3,107	29,956	52,680	3,244	24,985	42,885
Partly manufactured.....	18,272	8,216	32,799	19,856	7,991	33,809
Fully or chiefly manufactured.....	59,349	19,238	105,202	58,124	21,860	113,085
Totals, Animal Husbandry.....	80,727	57,410	190,681	81,224	54,837	189,780
All Canadian Farm Products—						
Raw materials.....	4,440	152,413	184,511	3,701	143,628	171,367
Partly manufactured.....	18,386	20,295	45,747	19,870	17,660	44,271
Fully or chiefly manufactured.....	83,304	63,439	185,925	82,703	70,717	200,653
TOTALS, CANADIAN FARM PRODUCTS.....	106,131	236,146	416,183	106,275	232,005	416,291
FOREIGN FARM PRODUCTS—¹						
Field Crops—						
Raw materials.....	2,135	82,799	250,557	1,478	97,950	233,449
Partly manufactured.....	598	15,221	83,188	1,119	15,293	102,396
Fully or chiefly manufactured.....	30,103	155,922	265,941	31,384	159,047	296,028
Totals, Field Crops.....	32,836	253,942	619,686	33,981	272,289	631,873
Animal Husbandry—						
Raw materials.....	2,415	6,380	9,647	2,232	6,338	9,738
Partly manufactured.....	—	29	50	—	54	91
Fully or chiefly manufactured.....	427	8,051	12,365	433	8,561	13,328
Totals, Animal Husbandry.....	2,842	14,460	22,061	2,665	14,952	23,158
All Foreign Farm Products—						
Raw materials.....	4,550	89,179	260,203	3,710	104,288	243,187
Partly manufactured.....	598	15,250	83,238	1,119	15,346	102,487
Fully or chiefly manufactured.....	30,530	163,973	298,306	31,818	167,607	309,356
TOTALS, FOREIGN FARM PRODUCTS.....	35,678	268,402	641,747	36,646	287,241	655,030
ALL FARM PRODUCTS—						
All Field Crops—						
Raw materials.....	3,468	205,255	382,387	1,936	216,592	361,930
Partly manufactured.....	713	27,300	96,136	1,133	24,962	112,857
Fully or chiefly manufactured.....	54,058	200,123	366,664	55,963	207,903	383,597
Totals, All Field Crops.....	58,239	432,678	845,187	59,032	449,457	858,384
All Animal Husbandry—						
Raw materials.....	5,522	36,336	62,327	5,476	31,323	52,624
Partly manufactured.....	18,272	8,245	32,849	19,856	8,045	33,901
Fully or chiefly manufactured.....	59,776	27,289	117,567	58,558	30,421	126,413
Totals, All Animal Husbandry.....	83,570	71,870	212,742	83,889	69,790	212,937

For footnote, see end of table.

19.—Imports according to Origin, by Group and Degree of Manufacture, 1956 and 1957—concluded

Origin	1956			1957		
	United Kingdom	United States	All Countries	United Kingdom	United States	All Countries
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Farm Origin—concluded						
All Farm Products—						
Raw materials.....	8,990	241,591	444,714	7,411	247,916	414,554
Partly manufactured.....	18,985	35,545	128,985	20,989	33,007	146,758
Fully or chiefly manufactured.....	113,834	227,411	481,231	114,521	238,324	510,009
Totals, Farm Origin.....	141,809	504,548	1,057,930	142,921	519,246	1,071,322
Wildlife Origin						
Raw materials.....	853	7,676	10,071	748	8,716	11,737
Partly manufactured.....	47	2,494	2,664	189	2,607	2,956
Fully or chiefly manufactured.....	57	543	636	31	676	729
Totals, Wildlife Origin.....	958	10,713	13,371	969	11,999	15,421
Marine Origin						
Raw materials.....	81	3,720	5,072	51	3,796	5,465
Partly manufactured.....	—	—	—	—	—	—
Fully or chiefly manufactured.....	399	4,730	13,993	523	4,047	12,314
Totals, Marine Origin.....	480	8,450	19,065	574	7,843	17,779
Forest Origin						
Raw materials.....	2	15,289	15,508	—	12,581	12,698
Partly manufactured.....	26	48,342	53,140	42	40,873	45,781
Fully or chiefly manufactured.....	6,280	145,269	184,393	6,617	151,851	172,385
Totals, Forest Origin.....	6,308	208,900	233,131	6,659	205,306	230,864
Mineral Origin						
Raw materials.....	3,404	219,392	520,698	3,608	216,582	560,814
Partly manufactured.....	24,732	78,080	116,409	18,940	62,732	92,846
Fully or chiefly manufactured.....	253,137	2,448,393	2,943,911	279,467	2,303,339	2,821,095
Totals, Mineral Origin.....	281,273	2,745,865	3,581,019	302,015	2,582,653	3,474,755
Mixed Origin						
Raw materials.....	—	512	811	—	358	358
Partly manufactured.....	615	8,553	9,924	864	7,968	9,427
Fully or chiefly manufactured.....	53,238	674,125	790,198	67,955	663,176	803,485
Totals, Mixed Origin.....	53,853	683,190	800,933	68,820	671,501	813,270
Recapitulation						
Raw materials.....	13,328	488,181	996,963	11,819	489,950	1,005,625
Partly manufactured.....	44,105	173,014	311,122	41,021	147,187	297,768
Fully or chiefly manufactured.....	426,946	3,500,472	4,397,963	469,115	3,361,412	4,320,017
Grand Totals.....	484,679	4,161,667	5,705,449	521,958	3,998,549	5,623,410

¹ In this classification the expression "Canadian Farm Products" refers to all commodities produced from basic raw materials such as are produced on Canadian farms. "Foreign Farm Products" covers materials or commodities such as Canada does not produce in their original forms. e.g., cane sugar, tea, rubber, cotton, silk, etc.

² Less than \$500.

**20.—Exports according to Origin, by Group and Degree of Manufacture,
1956 and 1957**

Origin	1956			1957		
	United Kingdom	United States	All Countries	United Kingdom	United States	All Countries
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Farm Origin						
CANADIAN FARM PRODUCTS—¹						
Field Crops—						
Raw materials.....	257,245	109,494	758,780	197,403	102,050	633,984
Partly manufactured.....	—	3,663	8,617	2	4,693	9,837
Fully or chiefly manufactured.....	50,914	80,635	195,099	44,640	78,987	176,197
Totals, Field Crops.....	308,158	193,792	962,496	242,043	185,730	820,018
Animal Husbandry—						
Raw materials.....	3,461	34,399	49,050	4,022	82,526	100,672
Partly manufactured.....	1,554	6,085	11,667	1,782	6,078	12,917
Fully or chiefly manufactured.....	5,495	19,998	43,245	5,096	12,573	32,562
Totals, Animal Husbandry.....	10,510	60,482	103,962	10,900	101,177	146,151
All Canadian Farm Products—						
Raw materials.....	260,706	143,893	807,830	201,425	184,575	734,656
Partly manufactured.....	1,554	9,749	20,284	1,782	10,771	22,754
Fully or chiefly manufactured.....	56,409	100,632	238,344	49,736	91,561	208,758
TOTALS, CANADIAN FARM PRODUCTS.....	318,669	254,274	1,066,458	252,943	286,907	966,169
FOREIGN FARM PRODUCTS—¹						
Field Crops—						
Raw materials.....	—	310	310	—	364	364
Partly manufactured.....	62	1,864	2,425	22	1,466	2,038
Fully or chiefly manufactured.....	930	9,496	19,140	254	9,304	18,326
Totals, Field Crops.....	991	11,671	21,875	276	11,134	20,728
Animal Husbandry—						
Raw materials.....	—	—	—	—	—	—
Partly manufactured.....	—	—	—	—	—	—
Fully or chiefly manufactured.....	—	3	4	—	1	4
Totals, Animal Husbandry.....	—	3	4	—	1	4
All Foreign Farm Products—						
Raw materials.....	—	310	310	—	364	364
Partly manufactured.....	62	1,864	2,425	22	1,466	2,038
Fully or chiefly manufactured.....	930	9,499	19,144	254	9,306	18,330
TOTALS, FOREIGN FARM PRODUCTS.....	991	11,673	21,879	276	11,136	20,732
ALL FARM PRODUCTS—						
All Field Crops—						
Raw materials.....	257,245	109,805	759,090	197,403	102,414	634,348
Partly manufactured.....	62	5,527	11,042	23	6,160	11,875
Fully or chiefly manufactured.....	51,843	90,131	214,239	44,894	88,291	194,523
Totals, All Field Crops.....	309,150	205,462	984,371	242,319	196,864	840,746
All Animal Husbandry—						
Raw materials.....	3,461	34,399	49,050	4,022	82,526	100,672
Partly manufactured.....	1,554	6,085	11,667	1,782	6,078	12,917
Fully or chiefly manufactured.....	5,495	20,001	43,249	5,096	12,575	32,566
Totals, All Animal Husbandry.....	10,510	60,485	103,966	10,900	101,179	146,155

¹ In this classification the expression "Canadian Farm Products" refers to commodities actually produced, in their original state, on Canadian farms. "Foreign Farm Products" covers materials or commodities such as Canada does not produce in their original forms, e.g., cane sugar, tea, rubber, cotton, silk, etc.

² Less than \$500.

20.—Exports according to Origin, by Group and Degree of Manufacture, 1956 and 1957—concluded

Origin	1956			1957		
	United Kingdom	United States	All Countries	United Kingdom	United States	All Countries
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Farm Origin—concluded						
All Farm Products—						
Raw materials.....	260,706	144,203	808,140	201,425	184,939	735,020
Partly manufactured.....	1,615	11,612	22,709	1,805	12,238	24,792
Fully or chiefly manufactured.....	57,339	110,132	257,488	49,990	100,866	227,089
Totals, Farm Origin.....	319,660	265,947	1,088,337	253,219	298,043	986,901
Wildlife Origin						
Raw materials.....	4,229	20,879	25,967	4,315	20,487	26,012
Partly manufactured.....	10	553	1,311	50	444	1,465
Fully or chiefly manufactured.....	3	491	528	3	493	570
Totals, Wildlife Origin.....	4,242	21,923	27,807	4,367	21,425	28,047
Marine Origin						
Raw materials.....	1	79,176	80,417	17	83,032	84,236
Partly manufactured.....	—	601	601	23	492	516
Fully or chiefly manufactured.....	8,062	16,450	51,702	7,259	13,185	47,133
Totals, Marine Origin.....	8,063	96,227	132,720	7,298	96,710	131,885
Forest Origin						
Raw materials.....	6,304	55,057	66,826	7,061	53,300	66,414
Partly manufactured.....	75,852	526,109	666,912	77,160	460,918	602,940
Fully or chiefly manufactured.....	53,190	667,826	780,843	58,122	657,707	786,868
Totals, Forest Origin.....	135,346	1,248,993	1,514,582	142,343	1,171,925	1,456,222
Mineral Origin						
Raw materials.....	59,486	395,268	529,621	67,450	503,859	654,800
Partly manufactured.....	247,274	479,427	857,409	212,457	450,946	853,633
Fully or chiefly manufactured.....	17,636	174,923	371,032	18,728	186,578	404,646
Totals, Mineral Origin.....	324,396	1,049,618	1,758,062	298,636	1,141,382	1,913,080
Mixed Origin						
Raw materials.....	—	1,803	1,805	—	2,069	2,069
Partly manufactured.....	9	611	887	26	1,148	1,569
Fully or chiefly manufactured.....	20,990	133,533	265,546	31,642	134,907	319,321
Totals, Mixed Origin.....	20,999	135,947	268,239	31,667	138,123	322,959
Recapitulation						
Raw materials.....	330,726	696,387	1,512,776	280,267	847,686	1,568,551
Partly manufactured.....	324,761	1,018,914	1,549,829	291,520	926,186	1,484,916
Fully or chiefly manufactured.....	157,219	1,103,354	1,727,140	165,743	1,093,737	1,785,627
Grand Totals.....	812,706	2,818,655	4,789,746	737,530	2,867,608	4,839,094

21.—Imports according to Purpose, by Group, 1956 and 1957

Group and Purpose	1956			1957		
	United Kingdom	United States	All Countries	United Kingdom	United States	All Countries
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Producers' Materials	203,162	1,120,409	1,866,963	203,603	1,102,454	1,840,135
Farm Materials—						
Fodders.....	3	28,228	28,540	7	24,689	24,701
Fertilizers.....	162	11,797	13,750	192	11,898	14,169
Seeds.....	1,029	6,463	8,365	112	4,848	5,690
Other.....	1,020	10,373	13,080	1,249	11,349	14,325
Totals, Farm Materials.....	2,214	56,862	63,735	1,559	52,784	58,885
Manufacturers' Materials—						
Foods and beverages.....	460	3,405	11,015	453	5,661	13,007
Tobacco, smokers' supplies.....	—	1,916	2,782	172	2,158	3,267
Textile, clothing, cordage.....	71,705	135,534	297,671	70,455	157,626	291,942
Fur and leather goods.....	8,307	29,985	44,620	7,936	30,115	43,887
Sawmills.....	—	19,872	45,850	—	18,125	41,590
Rubber industries.....	1,088	—	—	738	—	—
Other manufactures.....	85,863	664,402	1,112,212	81,769	620,760	1,095,886
Totals, Manufacturers' Materials.....	167,424	855,114	1,514,149	161,524	834,344	1,489,579
Building and Construction Materials.....	33,477	205,933	286,468	40,465	212,799	289,012
Other Producers' Materials.....	47	2,501	2,611	54	2,528	2,658 ¹
Producers' Equipment	90,498	1,129,982	1,284,423	100,149	1,077,700	1,251,400
Farm.....	4,472	231,920	241,555	7,540	199,742	212,705
Commerce and industry.....	86,027	898,062	1,042,873	92,609	877,958	1,038,694
Fuel, Electricity and Lubricants	2,512	222,890	277,148	2,576	216,981	267,959
Fuel.....	2,415	207,379	261,482	2,457	200,765	251,548
Electricity.....	—	562	562	—	1,406	1,406
Lubricants.....	97	14,948	15,105	120	14,810	15,005
Transport	49,732	603,298	672,095	69,215	526,362	621,813
Road.....	33,835	471,068	523,868	42,385	382,792	450,554
Rail.....	2,369	10,307	12,695	669	25,266	26,006
Water.....	709	9,891	11,304	2,385	13,314	16,255
Aircraft.....	11,819	112,032	124,227	23,776	104,990	128,999
Auxiliary Materials for Commerce and Industry	6,738	45,633	58,452	6,413	48,253	61,657
Advertising material.....	423	7,249	7,930	449	7,420	8,166
Containers.....	6,054	27,908	39,658	5,579	28,999	41,048
Other.....	262	10,476	10,864	385	11,834	12,443
Consumer Goods	91,755	565,973	1,001,452	96,921	572,683	1,043,042
Foods.....	13,087	178,564	348,200	14,755	180,480	379,505
Beverages.....	11,932	32,435	139,511	13,208	37,877	142,290
Smokers' supplies.....	549	3,130	4,343	580	3,359	5,394
Clothing.....	20,209	23,470	61,347	20,327	23,140	63,650
Household goods.....	31,355	169,802	228,785	29,857	159,394	217,309
Jewellery, timepieces, etc.....	2,189	9,811	31,795	2,288	9,044	31,537
Books, educational supplies, etc.....	5,183	59,554	70,393	4,856	63,441	74,547
Recreational equipment, etc.....	4,760	41,001	54,923	5,037	44,053	60,441
Medical supplies, etc.....	3,756	37,643	46,313	4,355	39,996	50,711
Other.....	1,735	10,564	15,843	1,659	11,899	17,657
Munitions and War Stores, n.o.p.	5,406	51,692	61,028	2,859	32,688	39,388
Live Animals for Food	3	1,898	1,901	1	1,472	1,472
Unclassified	32,874	419,891	481,982	40,223	419,957	496,545
Totals, Imports	484,679	4,161,667	5,705,449	521,958	3,998,549	5,623,410

¹ Less than \$500.

22.—Exports according to Purpose, by Group, 1956 and 1957

Group and Purpose	1956			1957		
	United Kingdom	United States	All Countries	United Kingdom	United States	All Countries
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Producers' Materials	734,886	2,293,448	3,833,469	655,881	2,250,022	3,775,283
Farm Materials—						
Fodders.....	64,396	71,487	170,194	39,347	71,214	140,280
Fertilizers.....	14	42,331	49,641	1	39,155	49,438
Seeds.....	1,236	12,415	19,141	1,288	8,896	15,456
Other.....	—	1,643	1,722	—	1,153	1,231
Totals, Farm Materials.....	65,646	127,876	240,698	40,636	120,418	206,406
Manufacturers' Materials—						
Foods and beverages.....	176,850	20,239	515,368	129,602	19,382	383,656
Tobacco, smokers' supplies.....	12,824	13	17,332	16,374	8	21,919
Textiles, clothing, cordage.....	1,201	2,617	8,308	4,041	2,285	13,074
Fur and leather goods.....	7,541	29,575	46,369	8,061	28,766	49,341
Sawmills.....	1,422	2,394	4,851	1,290	2,016	4,078
Rubber industries.....	—	407	414	1	303	320
Other manufactures.....	425,509	1,813,455	2,608,923	409,836	1,857,486	2,741,053
Totals, Manufacturers' Materials.....	625,348	1,868,700	3,201,565	569,205	1,910,245	3,213,440
Building and Construction Materials.....	43,889	294,873	387,578	46,036	248,446	352,510
Other Producers' Materials.....	2	2,000	3,628	4	913	2,927
Producers' Equipment	10,032	144,131	224,770	11,155	161,246	254,916
Farm.....	362	69,451	84,249	228	72,830	85,160
Commerce and industry.....	9,670	74,680	140,521	10,927	88,417	169,755
Fuel, Electricity and Lubricants	3,154	29,777	37,625	2,581	39,888	51,145
Fuel.....	3,154	14,562	22,063	2,581	20,690	31,648
Electricity.....	—	15,193	15,195	—	19,165	19,167
Lubricants.....	—	22	368	—	34	330
Transport	389	35,143	121,395	1,333	24,568	133,715
Road.....	233	4,125	49,818	403	5,324	48,895
Rail.....	—	737	13,575	1	1,900	12,869
Water.....	1	1,670	8,456	673	1,206	32,041
Aircraft.....	157	28,611	49,545	258	16,137	39,910
Auxiliary Materials for Commerce and Industry	765	5,889	11,358	1,335	4,714	10,367
Containers.....	764	5,887	11,250	1,335	4,711	10,269
Other.....	1	1	107	1	3	98
Consumer Goods	41,097	235,097	409,039	41,136	233,886	396,696
Foods.....	40,000	145,397	286,138	37,772	144,682	272,755
Beverages.....	1,173	66,628	74,724	604	65,476	72,640
Smokers' supplies.....	70	30	342	66	43	322
Clothing.....	1,021	3,999	7,314	547	3,033	6,177
Household goods.....	428	2,067	8,817	656	1,994	8,680
Jewellery, timepieces, etc.....	55	150	1,224	7	148	1,202
Books, educational supplies, etc.....	608	4,866	9,434	679	5,679	10,731
Recreational equipment, etc.....	538	9,580	13,320	464	10,382	13,750
Medical supplies, etc.....	176	2,187	7,155	252	2,381	9,965
Other.....	28	193	570	90	68	474
Munitions and War Stores, n.o.p.	10	24	853	4	30	201
Live Animals for Food	—	1,058	1,165	—	42,602	42,701
Unclassified	19,374	74,087	150,072	21,104	80,652	174,071
Totals, Exports	812,706	2,818,615	4,789,746	737,530	2,867,608	4,839,094

1 Less than \$500.

Section 6.—Comparison of Value, Price and Volume of Foreign Trade

In the postwar period there has been a substantial increase in the value of Canada's exports and imports. Changes in the value of trade, however, are the joint product of changes in the volume of goods traded and of the prices at which transactions are conducted. To assess the significance of value changes, it is desirable to isolate the contributions made to them by the price and volume factors.

Special indexes of export and import prices have been developed to provide this information. These indexes are based chiefly on unit values (average prices) calculated from the trade statistics, supplemented by information on wholesale and retail prices. Price relatives are calculated for a sample of commodities representing the greater part of export and import trade, and these relatives are weighted by the percentage of 1948 trade represented by each commodity in the sample in obtaining group and total indexes. By dividing these price indexes into the trade values the effects of price change are removed from the values, or by dividing the price index into an index of values on the same time-base an index is obtained showing changes in the volume of trade from year to year.

The grouping of commodities used in these calculations differs slightly from that of the regular trade statistics, changes being desirable to simplify the pricing problem. The chief difference is that the first two main groups of the trade statistics have been combined into one group, "agricultural and animal products", and that the sub-group "rubber and its products" has been transferred from this group to the "miscellaneous group".

The import totals differ from those usually published by the exclusion of certain goods brought into Canada by the governments of the United Kingdom and other NATO countries for the use of their defence forces. Table 23 shows the value of trade adjusted for pricing purposes, and the value, price and volume indexes of Canadian trade for 1954-57. In the period covered by this table, import prices rose steadily in 1955, 1956 and 1957. Export prices, on the other hand, increased in the earlier years but declined very slightly in 1957. Notwithstanding the increase in import prices, imports were reduced in value in 1957 as a result of a significant decline in volume; while exports increased in value in the same year, an increase in volume more than offset the small price decline.

23.—Declared Values, and Value, Price and Physical Volume Indexes of Foreign Trade, by Commodity Group, 1954-57

Commodity Group ¹	1954	1955	1956	1957
	DECLARED VALUES			
	\$'000	\$'000	\$'000	\$'000
Declared Values of Imports	4,093,196	4,712,370	5,705,449	5,623,410
Agricultural and animal products.....	579,962	600,292	673,870	705,432
Fibres and textiles.....	333,324	381,613	416,390	408,651
Wood products and paper.....	158,912	188,431	220,279	217,722
Iron and steel and products.....	1,312,976	1,597,472	2,221,640	2,122,967
Non-ferrous metals and products.....	368,638	411,512	503,327	495,540
Non-metallic minerals and products.....	594,638	659,171	760,785	771,763
Chemicals and fertilizer.....	224,984	265,012	293,772	299,718
Miscellaneous.....	494,755	563,504	566,081	573,182
Totals, Adjusted Imports ²	4,068,190	4,667,007	5,656,145	5,594,976
Imports for use of U.K. and NATO Governments.....	25,006	45,363	49,304	28,435
Declared Values of Exports³	3,881,272	4,281,784	4,789,746	4,839,225
Agricultural and animal products.....	1,062,206	1,006,146	1,225,876	1,124,543
Fibres and textiles.....	20,969	22,816	22,568	27,162
Wood products and paper.....	1,378,354	1,520,921	1,514,458	1,456,125
Iron and steel and products.....	307,537	402,957	465,712	549,641
Non-ferrous metals and products.....	717,072	852,923	959,471	1,006,316
Non-metallic minerals and products.....	145,873	206,200	292,100	347,705
Chemicals and fertilizer.....	153,238	183,507	182,854	195,303
Miscellaneous.....	96,323	86,314	126,707	132,430

For footnotes, see end of table

23.—Declared Values, and Value, Price and Physical Volume Indexes of Foreign Trade, by Commodity Group, 1954-57—concluded

Commodity Group ¹	1954	1955	1956	1957
VALUE INDEXES (1948=100)				
	\$'000	\$'000	\$'000	\$'000
Imports²	154.4	177.1	214.7	212.4
Agricultural and animal products	143.9	149.0	167.2	175.0
Fibres and textiles	95.1	108.8	118.8	116.6
Wood products and paper	225.3	267.1	312.2	308.6
Iron and steel and products	167.6	203.9	283.6	271.0
Non-ferrous metals and products	235.7	263.1	321.8	316.8
Non-metallic minerals and products	98.6	109.3	126.1	127.9
Chemicals and fertilizer	185.5	218.5	242.2	247.1
Miscellaneous	338.9	386.0	387.7	392.6
Domestic Exports³	126.2	139.2	155.7	157.4
Agricultural and animal products	101.6	96.2	117.3	107.6
Fibres and textiles	46.0	50.1	49.5	59.6
Wood products and paper	144.5	159.5	158.8	152.7
Iron and steel and products	84.7	111.0	128.3	151.5
Non-ferrous metals and products	181.1	215.4	242.3	254.2
Non-metallic minerals and products	153.4	217.2	307.7	366.3
Chemicals and fertilizer	191.9	229.8	229.0	244.6
Miscellaneous	99.2	88.9	130.5	136.4
PRICE INDEXES (1948=100)				
Imports²	109.5	110.5	113.0	116.6
Agricultural and animal products	104.4	99.8	99.8	104.0
Fibres and textiles	99.8	95.5	89.2	90.2
Wood products and paper	117.5	119.4	123.8	126.0
Iron and steel and products	120.4	125.2	133.2	138.1
Non-ferrous metals and products	120.4	124.8	132.8	134.4
Non-metallic minerals and products	102.1	100.6	102.0	108.5
Chemicals and fertilizer	108.1	109.9	111.7	110.9
Miscellaneous	105.3	119.7	118.3	113.2
Domestic Exports³	115.1	117.7	121.4	121.3
Agricultural and animal products	96.8	96.5	95.9	95.7
Fibres and textiles	108.6	106.4	108.7	112.4
Wood products and paper	116.3	118.0	120.1	119.9
Iron and steel and products	132.3	134.8	143.1	151.5
Non-ferrous metals and products	134.6	149.4	165.0	156.3
Non-metallic minerals and products	150.2	149.9	156.1	159.6
Chemicals and fertilizer	115.0	114.8	113.9	113.3
Miscellaneous	123.5	125.2	126.6	128.9
VOLUME INDEXES (1948=100)				
Imports²	141.0	160.3	190.0	182.2
Agricultural and animal products	137.8	149.3	167.5	168.3
Fibres and textiles	95.3	113.9	133.2	129.3
Wood products and paper	191.7	223.7	252.2	244.9
Iron and steel and products	139.2	162.9	212.9	196.2
Non-ferrous metals and products	195.8	210.8	242.3	235.7
Non-metallic minerals and products	96.6	108.6	123.6	117.9
Chemicals and fertilizer	171.6	198.8	216.8	222.8
Miscellaneous	321.8	322.5	327.7	346.8
Domestic Exports³	109.6	118.3	128.3	129.8
Agricultural and animal products	105.0	99.7	122.3	112.4
Fibres and textiles	42.4	47.1	45.5	53.0
Wood products and paper	124.2	135.2	132.2	127.4
Iron and steel and products	64.0	82.3	89.7	100.0
Non-ferrous metals and products	133.1	144.2	139.9	162.6
Non-metallic minerals and products	102.1	144.9	197.1	229.5
Chemicals and fertilizer	175.7	200.2	251.4	215.9
Miscellaneous	80.3	71.0	103.1	105.8

¹ Groups, though classified by component material, differ slightly from conventional groups (see text, p. 1020).
² Excludes imports for the use of the United Kingdom and other NATO Governments.
³ Excludes exports of foreign produce.

PART III.—EXTERNAL TRANSACTIONS*

Section 1.—Canadian Balance of International Payments

Canada's total commercial and financial transactions with other countries are presented in summary form in statements of the Canadian balance of international payments. The current account statement, covering all current exchanges of goods and services, indicates the main categories of transactions giving rise to receipts from and expenditures abroad, and the extent to which these are out of balance. The capital account presents an analysis of the movements of short-term and long-term capital that have occurred during a comparable period.

Each year since 1950, with the exception of 1952, Canada's current expenditures abroad exceeded external current receipts. The current account deficits that resulted in this period of rapid Canadian development were financed by inflows of capital. Current account deficits have customarily been associated with periods of Canadian prosperity, and the rate of recent Canadian growth with the development of new resources has been once again the underlying element in the strength of Canadian demands for imported goods and services. High levels of investment at a time when defence expenditures were also very heavy, together with rising levels of consumption, contributed to the deficits. Until 1955 the deficits in recent years were not large in proportion to the high levels of total current transactions and capital inflows of a long-term type were large enough to finance the deficits in most periods. But in 1955 the current deficit rose to \$698,000,000, substantially more than the net inflow of long-term capital. In 1956, as the result of continuing high levels of investment and consumption, the deficit rose to the unprecedented peak of \$1,366,000,000; at the same time, inflows of capital in long-term forms more than tripled those of the previous year and were more than sufficient to finance the record deficit. In 1957 the deficit rose even further to \$1,400,000,000 and inflows of capital in long-term forms were almost sufficient to finance it. But, in contrast to 1956, the trend over 1957 was towards a reduced deficit and the figure for 1958, reflecting a moderation of economic activity, was substantially smaller than in the preceding years.

Current Account Transactions.—Exceptional imbalances on current account of nearly \$1,400,000,000 occurred in both 1956 and 1957. But there were significant changes in the underlying sources of the deficits, for the balance on merchandise account† fell by \$149,000,000 between the two years while at the same time there was a rise of \$183,000,000 in the deficit from non-merchandise transactions. In 1957 non-merchandise transactions contributed \$821,000,000 to the deficit on current account and merchandise transactions contributed \$579,000,000, whereas in 1956 the merchandise deficit had accounted for more than one-half of the total deficit. While the merchandise deficit has varied widely, the deficit on non-merchandise transactions has risen year by year from \$325,000,000 in 1952 to more than two and one-half times that figure in 1957.

In recent years the relative importance of exports of materials for industry, such as forest products, metals and minerals, has been increasing while the relative position of wheat and some other agricultural products has declined. In addition to new products for export, like iron ore, petroleum and uranium, there have been general increases in the productive capacity of more traditional staples like pulp and paper, nickel, aluminum and copper. While demands for some of these industrial materials weakened in 1957, demands for others increased and for the year as a whole merchandise exports rose \$72,000,000 to total \$4,909,000,000. At the same time merchandise imports fell \$77,000,000 from the levels of 1956 to total \$5,488,000,000. Exceptionally high levels of all types of imports were characteristic of both years with special emphasis on imports of investment goods and industrial materials. But general similarity between the two years conceals the

* Prepared in the Balance of Payments Section, International Trade Division, Dominion Bureau of Statistics. More detailed information is given in the annual publication *The Canadian Balance of International Payments, and International Investment Position*, and in *Quarterly Estimates of the Canadian Balance of International Payments*.

† The adjustments from commodity trade statistics to merchandise imports and exports for balance of payments purposes include a variety of non-commercial items such as settlers' effects, and bequests and donations in kind, items covered elsewhere in the balance of payments such as tourists' imports and exports, and a variety of special items including defence imports for the account of governments of other countries.

distinct changes under way in each. Whereas imports were rising rapidly in 1956, a decline occurred in 1957 which became quite pronounced by the last quarter. The highest levels were reached in the latter part of 1956 and were carried over into the early part of 1957. Details of Canada's foreign trade are covered more extensively in Parts I and II of this Chapter.

The deficit on non-merchandise transactions has continued to grow with a persistence and significance characteristic of this type of transaction for some years. The advance of nearly 30 p.c. brought the total deficit to \$821,000,000 in 1957. More than half was occasioned by net payments of interest and dividends. Tremendous growth in Canada's net international indebtedness has added significantly to net payments on income account notwithstanding the fact that some hundreds of millions of dollars of profits accruing to non-residents are each year retained in Canada for further investment. In both 1956 and 1957 total earnings, distributed and undistributed, on all non-resident-owned investments in Canada were in the neighbourhood of \$1,000,000,000.

The travel account is another which involves substantial net outlays by Canada. During both 1956 and 1957 net expenditures were approximately \$160,000,000. To these payments were added net deficits from freight and shipping transactions, and very large net payments—about \$289,000,000 in 1957—covering business services, miscellaneous income, government transactions, and remittances. Against these expenditures there were amounts available from new gold production, which in recent years have been around \$150,000,000, and a minor amount in 1957 from inheritances and migrants' transfers.

The most outstanding feature of the bilateral pattern in Canada's current account in 1957 was, as in 1956, the exceptionally large size of the deficit with the United States. In each year, current payments to the United States for goods and services exceeded receipts by well over \$1,500,000,000; this compares with much smaller deficits in earlier years, which exceeded \$1,000,000,000 in only two years before 1956. Changes in the size of this deficit between 1956 and 1957 were comparatively small with a decline in total from \$1,639,000,000 to \$1,551,000,000, mostly concentrated in the final quarter. The sources of the deficit with the United States underwent more changes than the total between the two years. The adjusted import balance on commodity account fell \$220,000,000 to \$947,000,000, while the deficit from non-commodity current transactions rose \$132,000,000 to \$604,000,000. Trends in both imports and exports contributed to the first change. The main declines in Canadian imports that occurred in the latter part of 1957 were concentrated in purchases from the United States and were particularly substantial in groups of commodities, like machinery and equipment and other metal products, which had been at very exceptional levels in the period of peak imports. In contrast, special strength in exports to the United States in a few commodities like uranium, cattle and petroleum was sufficient to raise the total exports to that country even though demand softened for some leading commodities going to the United States. The gain of \$132,000,000 in the deficit from non-commodity transactions with the United States was mainly attributed to rises of \$48,000,000 in net income remittances and \$80,000,000 in miscellaneous transactions.

With the United Kingdom there was a sharp contraction in Canada's current surplus from \$252,000,000 in 1956 to \$142,000,000 in 1957. This was a smaller surplus than in any other postwar year except 1950 and 1953. The change resulted from a reduction on commodity account of \$96,000,000 and an enlarged deficit from all other transactions, which was greater by \$14,000,000. There was a contraction of \$12,000,000 in the surplus with other overseas countries, which fell to \$9,000,000 in 1957.

Capital Movements.—Capital investment in Canada for the year 1957 was even higher than the unprecedented levels of 1956. Total private and public capital formation rose by more than 9 p.c. (compared with 28 p.c. in 1956), and amounted to 28 p.c. of the gross national product (compared with 27 p.c. in the previous year). In both years Canada drew substantially on the resources, real and financial, of the remainder of the world.

The inflow of capital for direct investment in foreign-controlled establishments during 1957 was placed at \$520,000,000. Transactions in Canadian securities led to a further inflow of \$747,000,000, including \$175,000,000 of equities. These two groups of trans-

actions added \$1,267,000,000 to Canadian external liabilities in long-term forms. On the long-term assets side, there were outflows of \$65,000,000 for direct investment abroad, but inflows of \$19,000,000 and \$50,000,000 respectively occurred from transactions in foreign securities and repayments on inter-governmental loans. Transactions in all these and other long-term forms led to a net capital import of \$1,307,000,000 which was sufficient to finance more than 93 p.c. of the current account deficit; the corresponding inflows of \$1,423,000,000 in 1956 were 4 p.c. greater than the deficit in that year. Including inflows from a reduction in official holdings of gold and foreign exchange, offset to some extent by a reduction of holdings of Canadian dollars by non-residents, other capital movements led to a net capital inflow of \$93,000,000 in 1957.

The movement of capital in long-term forms from the United States was practically the same in 1957 as in 1956, but the movement from the United Kingdom and other overseas countries fell by some 20 p.c. and the share of the United States rose from about 68 p.c. to 73 p.c.

Inflows of capital for direct investment in foreign-controlled enterprises have dominated the capital account of the Canadian balance of payments in most of the postwar years. These persistent and substantial receipts have been directed particularly to resource development and associated industries. By far the largest part of the new capital has gone into the petroleum and natural gas industry which has been one of the great dynamic developments in the Canadian economy since the 1940's. Substantial amounts have also gone into other mining industries, particularly for the development of iron ore, and to various branches of manufacturing.

Although the inflow for direct investment has been the dominant feature of postwar capital movements, it has been dwarfed since 1956 by the inflow of portfolio capital. This arose in part from substantial sales of outstanding Canadian stocks as the non-resident investor added to his stake in Canadian growth. The largest factor in the increase, however, has been the voracious demands in the Canadian capital market, some of which have been diverted to foreign capital markets through the sale to non-residents of new issues of Canadian bonds and debentures. Corporations, provincial governments and municipalities have all been important borrowers abroad in recent years.

Comments and statistics on the effects of the unprecedented capital inflows of recent years upon the ownership of investments in Canada will be found in the Section on Canada's International Investment Position in Chapter XXIII.

1.—Current Account between Canada and All Countries, 1938-57

(Millions of dollars)

Year	Current Receipts ¹	Current Payments ²	Net Balance including Mutual Aid Exports	Wartime Grants and Mutual Aid	Net Balance on Current Account indicating Net Movement of Capital
1938.....	1,361	1,261	+100	—	+100
1939.....	1,457	1,331	+126	—	+126
1940.....	1,776	1,627	+149	—	+149
1941.....	2,458	1,967	+491	—	+491
1942.....	3,376	2,275	+1,101	-1,002	+99
1943.....	4,064	2,858	+1,206	-518	+688
1944.....	4,557	3,539	+1,018	-960	+58
1945.....	4,456	2,910	+1,546	-858	+688
1946.....	3,365	2,905	+460	-97	+363
1947.....	3,748	3,699	+49	—	+49
1948.....	4,147	3,696	+451	—	+451
1949.....	4,089	3,912	+177	—	+177
1950.....	4,297	4,574	-277	-57	-334
1951.....	5,311	5,683	-372	-145	-517
1952.....	5,858	5,494	+364	-200	+164
1953.....	5,737	5,934	-197	-246	-443
1954.....	5,520	5,668	-148	-284	-432
1955.....	6,072	6,548	-476	-222	-698
1956.....	6,621	7,830	-1,209	-157	-1,366
1957 P.....	6,625	7,918	-1,293	-107	-1,400

¹ Includes Mutual Aid exports.

² Excludes Mutual Aid offsets.

2.—Geographical Distribution of the Balance on Current Account between Canada and Other Countries, 1938-57

NOTE.—In the years 1942-46 balances include exports of currently produced goods provided as Mutual Aid or Official Contributions. (See also Table 1.)

(Millions of Canadian dollars)

Year	United States ¹	United Kingdom ²	Other Overseas Countries ¹	All Countries	Year	United States ¹	United Kingdom ²	Other Overseas Countries ¹	All Countries
1938.....	-149	+127	+122	+100	1948.....	-393	+486	+358	+451
1939.....	-116	+137	+105	+126	1949.....	-601	+446	+332	+177
1940.....	-292	+343	+98	+149	1950.....	-400	+24	+42	-334
1941.....	-818	+734	+75	+491	1951.....	-951	+223	+211	-517
1942.....	-180	+1,233	+58	+1,101	1952.....	-849	+388	+625	+164
1943.....	-19	+1,149	+76	+1,206	1953.....	-904	+133	+328	-443
1944.....	+31	+746	+241	+1,018	1954.....	-807	+229	+146	-432
1945.....	+36	+747	+763	+1,546	1955.....	-1,035	+330	+7	-698
1946.....	-607	+500	+567	+460	1956.....	-1,639	+252	+21	-1,366
1947.....	-1,134	+633	+550	+49	1957 ^p	-1,551	+142	+9	-1,400

¹ Includes all net exports of non-monetary gold.

² Excludes wheat exports diverted to other overseas countries and exports of gold.

³ Includes estimated value of wheat sold in European countries.

3.—Balance of International Payments between Canada and All Countries, 1952-57

(Millions of dollars)

Item	1952	1953	1954	1955	1956	1957 ^p
A. CURRENT RECEIPTS—						
Merchandise exports (adjusted).....	4,339	4,152	3,929	4,332	4,837	4,909
Mutual Aid to NATO countries.....	200	246	284	222	157	107
Gold production available for export.....	150	144	155	155	150	147
Tourist and travel expenditure.....	275	302	305	328	337	363
Interest and dividends.....	145	165	147	160	142	149
Freight and shipping.....	383	318	313	398	457	431
All other current credits.....	366	410	387	477	541	519
TOTALS, CURRENT RECEIPTS.....	5,858	5,737	5,520	6,072	6,621	6,625
B. CURRENT PAYMENTS—						
Merchandise imports (adjusted).....	3,850	4,210	3,916	4,543	5,565	5,488
Tourist and travel expenditure.....	341	365	389	449	498	525
Interest and dividends.....	413	404	423	483	523	593
Freight and shipping.....	375	374	356	415	502	506
Official contributions ¹	216	271	295	246	187	144
All other current debits.....	499	556	573	634	712	769
TOTALS, CURRENT PAYMENTS.....	5,694	6,180	5,952	6,770	7,987	8,025
C. CURRENT ACCOUNT BALANCE.....	+164	-443	-432	-698	-1,366	-1,400
D. CAPITAL ACCOUNT—						
Direct Investment—						
Direct investment in Canada.....	+346	+426	+392	+417	+583	+520
Direct investment abroad.....	-77	-63	-81	-74	-104	-65
Canadian Securities—						
Trade in outstanding issues.....	-94	-31	+63	-27	+199	+94
New issues.....	+316	+335	+331	+166	+667	+790
Retirements.....	-89	-146	-203	-184	-141	-137
Foreign security transactions.....	-8	—	-24	-6	+2	+19
Repayments on Government of Canada war and postwar loans.....	+56	+87	+72	+69	+69	+50
Change in Canadian dollar holdings of foreigners.....	-66	-18	+34	+89	-24	-34
Change in official holdings of gold and foreign exchange (increase, minus).....	-37	+38	-124	+44	-33	+105
Other capital movements ²	-511	-185	-28	+204	+148	+58
E. NET CAPITAL MOVEMENT.....	-164	+443	+432	+698	+1,366	+1,400

¹ Includes Mutual Aid to NATO countries.

² Includes unrecorded capital movements, and errors and omissions.

4.—Current and Capital Account Transactions between Canada and the United States, 1952-57

(Millions of dollars)

Item	1952	1953	1954	1955	1956	1957 ^p
A. CURRENT RECEIPTS—						
Merchandise exports (adjusted).....	2,346	2,458	2,355	2,598	2,854	2,931
Net exports of non-monetary gold.....	150	144	155	155	150	147
Travel expenditure.....	257	282	283	303	309	325
Interest and dividends.....	85	101	69	78	80	91
Freight and shipping.....	174	164	169	203	223	215
All other current receipts.....	262	294	275	363	399	353
TOTALS, CURRENT RECEIPTS.....	3,274	3,443	3,306	3,700	4,015	4,062
B. CURRENT PAYMENTS—						
Merchandise imports (adjusted).....	2,817	3,046	2,800	3,283	4,021	3,878
Travel expenditure.....	294	307	320	363	391	403
Interest and dividends.....	344	334	345	388	427	486
Freight and shipping.....	302	296	261	287	351	344
All other current payments.....	366	364	387	414	464	502
TOTALS, CURRENT PAYMENTS.....	4,123	4,347	4,113	4,735	5,654	5,613
C. CURRENT ACCOUNT BALANCE.....	-849	-904	-807	-1,035	-1,639	-1,551
D. CAPITAL ACCOUNT—						
Direct Investment—						
Direct investment in Canada.....	+319	+346	+288	+306	+406	+403
Direct investment abroad.....	-42	-33	-46	-56	-70	-36
Canadian Securities—						
Trade in outstanding issues.....	-104	-80	—	-67	+34	-64
New issues.....	+315	+322	+299	+127	+601	+714
Retirements.....	-75	-132	-184	-169	-133	-109
Foreign security transactions.....	+4	+3	+4	+25	-3	+22
Change in Canadian dollar holdings of foreigners.....	-37	-1	+19	+66	-48	-9
Change in official holdings of gold and foreign exchange (increase, minus).....	-80	+42	-121	+42	-34	+104
Other capital movements ¹	-458	-223	+18	+151	+103	+13
E. NET CAPITAL MOVEMENT.....	-158	+244	+277	+425	+856	+1,038
F. BALANCE SETTLED BY EXCHANGE TRANSFERS.....	+1,007	+660	+530	+610	+783	+513
TOTALS, FINANCING OF CURRENT ACCOUNT BALANCE.....	+849	+904	+807	+1,035	+1,639	+1,551

¹ Includes unrecorded capital movements, and errors and omissions.

5.—Current Account Transactions between Canada and the United Kingdom, 1952-57

(Millions of dollars)

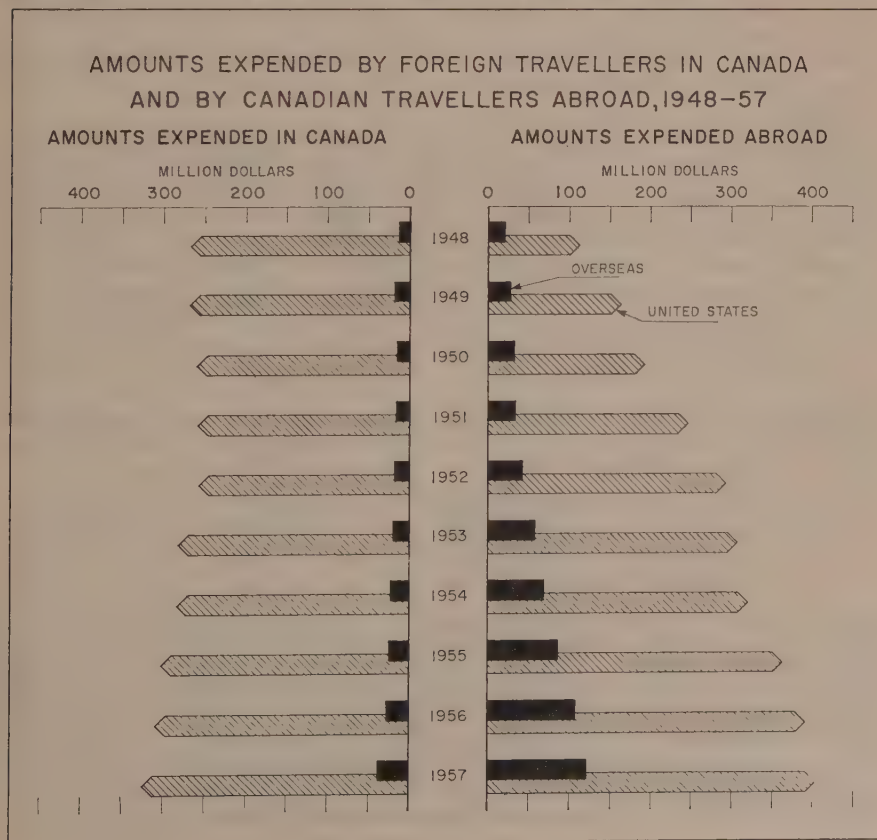
Item	1952	1953	1954	1955	1956	1957 ^p
A. CURRENT RECEIPTS—						
Merchandise exports (adjusted).....	727	656	660	772	818	749
Travel expenditure.....	10	12	13	13	14	18
Interest and dividends.....	29	28	35	41	14	10
Freight and shipping.....	105	79	73	97	98	93
All other current receipts.....	54	55	55	59	71	85
TOTALS, CURRENT RECEIPTS.....	925	830	836	982	1,015	955
B. CURRENT PAYMENTS—						
Merchandise imports (adjusted).....	350	463	391	406	493	520
Travel expenditure.....	27	31	35	40	46	47
Interest and dividends.....	56	57	62	75	73	78
Freight and shipping.....	42	42	39	49	59	68
All other current payments.....	62	104	80	82	92	100
TOTALS, CURRENT PAYMENTS.....	537	697	607	652	763	813
C. CURRENT ACCOUNT BALANCE.....	+388	+133	+229	+330	+252	+142

Section 2.—Travel between Canada and Other Countries

During 1957 new records were established in the number of visits to Canada by residents of other countries and the number of visits to other countries by residents of Canada; however, the expansion of travel to other countries by Canadians was the more moderate. Visits to Canada by residents of other countries numbered 28,656,000, a substantial gain over the 27,700,000 visits recorded in 1956. Canadians reciprocated with 27,329,300 visits to other countries in comparison with 27,200,000 in 1956. The total of all travel amounted to 55,985,300 visits as compared with 54,900,000 in 1956, an increase of about 2 p.c.

Nearly 1,000,000 more persons visited Canada in 1957 than in 1956. Entries direct from overseas countries increased by 6,000 and visits by residents of the United States by 952,900. Travel to other countries by Canadians, however, levelled off during 1957. Re-entries of Canadians returning from visits to the United States were up by 132,700 or about 0.5 p.c. and re-entries direct from overseas advanced 13,800 or 13 p.c.

Estimates of receipts and payments were also higher. Visitor expenditures in Canada advanced from \$337,000,000 in 1956 to \$363,000,000 in 1957, visitors from the United States contributing \$325,000,000 and residents of overseas countries \$38,000,000. Payments for travel in other countries advanced by approximately the same amount, from \$498,000,000 in 1956 to \$525,000,000 in 1957. During 1957 Canadians spent \$403,000,000 on travel in the United States and \$122,000,000 on travel to overseas countries, the deficit amounting to \$162,000,000 compared to \$161,000,000 in 1956.



6.—Number and Expenditure of Foreign Travellers in Canada and Canadian Travellers Abroad, 1956 and 1957

Year and Class of Traveller	Foreign Travellers in Canada ¹	Foreign Expenditure in Canada	Canadians Travelling Abroad ¹	Canadian Expenditure Abroad	Excess of Foreign Travellers in Canada ¹	Excess of Canadian Expenditure Abroad
	No.	\$'000	No.	\$'000	No.	\$'000
1956						
Travellers from and to overseas countries.....	30,600	28,000	106,100	107,000	-75,500	+79,000
Travellers from and to the United States—						
Automobile—						
Short-term visit (under 48 hrs.).....	19,377,200	54,900	17,204,300	38,000	+2,172,900	-16,900
Long-term visit.....	3,012,600	117,700	2,958,600	159,400	+54,000	+41,700
Rail.....	882,100	43,700	485,800	64,300	+396,300	+20,600
Boat.....	399,500	15,700	102,100	5,000	+297,400	-10,700
Bus (exclusive of local bus).....	338,900	22,100	435,600	41,900	-96,700	+19,800
Aircraft.....	314,700	36,600	300,300	66,400	+14,400	+29,800
Other (pedestrians, local bus, etc.)	3,341,500	18,700	5,590,000	16,100	-2,248,500	-2,600
Totals, United States.....	27,666,500	309,400	27,076,700	391,100	+589,800	+81,700
Totals, All Countries.....	27,697,100	337,400	27,182,800	498,100	+514,300	+160,700
1957						
Travellers from and to overseas countries.....	36,600	38,000	119,900	122,000	-83,300	+84,000
Travellers from and to the United States—						
Automobile—						
Short-term visit (under 48 hrs.).....	19,813,300	54,900	17,945,600	43,300	+1,867,700	-11,600
Long-term visit.....	3,103,200	118,600	3,113,000	168,900	-9,800	+50,300
Rail.....	719,700	44,600	445,000	60,600	+274,700	+16,000
Boat.....	309,200	18,900	95,200	5,200	+214,000	-13,700
Bus (exclusive of local bus).....	375,200	27,500	453,700	40,100	-78,500	+12,600
Aircraft.....	352,700	40,600	332,700	70,300	+20,000	+29,700
Other (pedestrians, local bus, etc.)	3,946,100	20,200	4,824,200	14,600	-878,100	-5,600
Totals, United States.....	28,619,400	325,300	27,209,400	403,000	+1,410,000	+77,700
Totals, All Countries.....	28,656,000	363,300	27,329,300	525,000	+1,326,700	+161,700

¹ As these figures are the number of entries and re-entries into Canada, they include substantial amounts of in-transit, commuting and local traffic.

7.—Summary of Highway Traffic at Canadian Border Points, by Province, 1956 and 1957

Province or Territory	FOREIGN VEHICLES INWARD					
	Non-permit Class Local Traffic		Travellers' Vehicle Permits		Commercial Vehicles	
	1956	1957	1956	1957	1956	1957
	No.	No.	No.	No.	No.	No.
Atlantic Provinces.....	1,885,993	1,547,776	174,698	179,866	110,295	105,709
Quebec.....	542,454	594,244	417,826	425,870	120,184	113,524
Ontario.....	3,915,963	3,892,033	1,485,360	1,533,842	156,942	170,975
Manitoba.....	70,890	75,240	45,543	49,178	15,008	17,293
Saskatchewan.....	32,420	31,165	20,984	22,334	8,502	8,248
Alberta.....	32,069	25,194	47,916	48,770	8,773	8,028
British Columbia.....	130,282	120,573	282,926	284,790	29,834	34,213
Yukon Territory.....	995	847	9,191	10,424	1,385	172
Totals.....	6,111,066	6,287,072	2,484,444	2,555,074	450,923	458,162
Percentage change 1956-57.....	+2.88		+2.84		+1.60	

**7.—Summary of Highway Traffic at Canadian Border Points, by Province,
1956 and 1957—concluded**

Province or Territory	CANADIAN VEHICLES RETURNING					
	After Stay of 24 Hours or Less		After Stay of Over 24 Hours		Commercial Vehicles	
	1956	1957	1956	1957	1956	1957
	No.	No.	No.	No.	No.	No.
Atlantic Provinces.....	1,615,748	1,692,852	127,366	152,791	137,853	132,536
Quebec.....	1,086,593	1,169,503	373,757	403,802	183,390	172,788
Ontario.....	2,759,531	2,864,208	478,872	476,225	232,944	244,371
Manitoba.....	136,752	137,949	65,979	71,864	28,125	22,220
Saskatchewan.....	75,043	86,364	31,486	32,481	12,156	10,128
Alberta.....	64,567	61,935	65,050	58,552	13,138	11,169
British Columbia.....	569,786	624,361	203,723	228,773	31,297	32,752
Yukon Territory.....	1,495	2,449	387	609	355	1,423
Totals.....	6,309,515	6,629,621	1,346,620	1,425,097	639,258	627,387
Percentage change 1956-57.....	+5.07		+5.82		-1.89	

Travel by Residents of the United States in Canada.—Contrary to the trend of 1956, most of the increase in receipts from United States residents travelling in Canada in 1957 appeared in the non-automobile classifications. A comparison of the two years shows that the \$173,467,100 spent by visitors using automobiles for transportation in 1957 was \$834,400 higher than in 1956, a gain of 0.5 p.c. On the other hand, persons using other than automobile transportation spent \$151,848,900 in 1957 compared with \$136,725,500 in 1956, an increase of 11 p.c. These latter persons accounted for 47 p.c. of the total receipts in 1957 and 44 p.c. in the previous year.

Special surveys conducted in 1955, 1956 and 1957 have given additional information regarding travel by United States residents entering Canada on vehicle permits. In 1957, 128,000 questionnaires were mailed to such persons who had visited Canada during the year, 31 p.c. of which were completed and returned. About 15 p.c. of the questionnaires returned were completed by persons reporting on their first trip to Canada. Trips by United States residents had, of course, a variety of purposes; 64 p.c. of those lasting for three days or longer were for recreation, 26 p.c. were for visiting relatives or friends, 7 p.c. were for business, 2 p.c. for shopping, and a few for education and other purposes. There was considerable seasonal variation in the purpose of visits. In the third quarter of the year about 75 p.c. were for recreation compared with 42 p.c. in the first quarter, 47 p.c. in the second quarter and 45 p.c. in the fourth quarter. Persons visiting friends or relatives were more evenly distributed throughout the year, but seasonal variations were quite pronounced for business trips. About 16 p.c. of the travellers in the first and second quarters of the year were on business, 3 p.c. in the third quarter and 12 p.c. in the fourth.

The survey showed that in 1957 about 77 p.c. of the persons reporting were adults, compared with 74 p.c. in 1956. On a seasonal basis there was a much higher proportion of children among the visitors in July, August and September, the vacation months. In the first quarter of the year, 80 p.c. of the visitors were adults, in the second quarter 88 p.c. and in the fourth quarter 83 p.c. Provincially, the percentage of children was highest among visitors to Manitoba and lowest among those to Nova Scotia.

The motel or motor court was the most popular type of accommodation for automobile travellers, serving nearly 30 p.c. of the visitors reporting in 1957; 23 p.c. stayed with friends or relatives, 21 p.c. at hotels and the remainder at cottages, camping grounds, tourist homes and so on. Considerable seasonal variation appeared also in type of accommodation reported. More visitors stayed in hotels during the winter months, the proportion being at its minimum in the third quarter of the year. The proportion of visitors depending on friends or relatives was also at its minimum in the third quarter. Motels on the other hand were less frequented in the first and last quarters of the year, reaching their maximum of popularity in the third quarter, at the same time as camps, cottages,

tourist homes, etc. More persons travelling in Canada on business used hotels than all other types of accommodation combined. Persons on recreation were more diversified in their choice—between 36 and 37 p.c. stayed in motels, 23 p.c. in hotels, 21 p.c. in cottages and the remainder in other accommodation. Most visitors to friends or relatives stayed in homes but 19 p.c. stayed in motels and hotels and a few in other types of quarters. It is interesting to note that hotels or resorts in the Province of Quebec provided accommodation for a higher percentage of motorists than any other province, and such accommodation in New Brunswick served the lowest proportion of visitors entering that province. A higher percentage of travellers entering through Nova Scotia stayed in tourist homes than of those entering through other provinces; with the exception of Alberta, tourist homes were unimportant in providing accommodation in the western provinces. Cottages were more popular in Ontario than elsewhere and the proportion of persons camping was highest in Alberta and British Columbia. A higher percentage stayed with friends or relatives in Saskatchewan than in other provinces but few of those entering Alberta were thus served.

United States visitors who stayed two days in Canada during 1957 travelled an average of 237 miles; those respondents staying three or more days averaged 697 miles although this varied somewhat according to the season of the year, the maximum appearing in the third quarter. Persons entering for shopping travelled an average of 318 miles, those coming on business averaged 661 miles, those on recreation 725 miles and those visiting with friends or relatives 490 miles. Milage in Canada was also influenced by the province of entry and destination. Travellers destined to points within the province of entry averaged 537 miles and those entering one province but proceeding to destinations in another averaged 1,442 miles.

Since a high percentage of the one- and two-day visitors would remain within the province of entry, information on destination was restricted to persons staying three or more days. For the year as a whole, about 82 p.c. of the visitors remained in the province of entry although there was some seasonal variation. Motorists were more inclined to travel beyond the province of entry in the vacation months of July, August and September. Table 8 gives the percentage distribution of province of destination classified by province of entry into Canada.

8.—Average Milage Reported by Motorists from the United States, by Province of Destination and of Entry, 1957

NOTE.—Information reported on special survey questionnaires (see text p. 1029) by travellers remaining in Canada three or more days.

Province of Destination	Province of Entry	Average Milage Travelled	Province of Destination	Province of Entry	Average Milage Travelled
		No.			No.
Newfoundland.....	Newfoundland.....	—	Manitoba.....	Manitoba.....	489.9
	Other provinces.....	2,955.3		Other provinces.....	1,344.8
	Canada.....	2,955.3		Canada.....	738.3
Prince Edward Island.....	Prince Edward Island.....	—			
	Other provinces.....	1,421.5	Saskatchewan.....	Saskatchewan.....	839.3
	Canada.....	1,421.5		Other provinces.....	1,570.8
Nova Scotia.....	Nova Scotia.....	899.1		Canada.....	1,092.0
	Other provinces.....	1,618.0	Alberta.....	Alberta.....	990.5
	Canada.....	1,371.7		Other provinces.....	1,434.4
New Brunswick.....	New Brunswick.....	547.6		Canada.....	1,189.3
	Other provinces.....	1,559.5	British Columbia....	British Columbia....	362.0
	Canada.....	684.1		Other provinces.....	2,112.1
Quebec.....	Quebec.....	471.1		Canada.....	454.9
	Other provinces.....	1,115.3	Alaska (in transit to		
	Canada.....	709.2	or from).....		3,209.8
Ontario.....	Ontario.....	562.2	Canada ¹		697.0
	Other provinces.....	1,045.3			
	Canada.....	578.0			

¹ Includes vehicles destined to Yukon Territory.

A classification of expenditures showed that in 1957 between 31 and 32 cents of each dollar went for foods and beverages, 23 cents for lodging and 16 cents for transportation. Some 7 cents of the travel dollar went for handicrafts and souvenirs, 12 cents for other merchandise and about 10 cents for reasons not specified.

9.—Percentage Distribution of Destination in Canada of Motorists from the United States, classified by Province of Entry, 1957

NOTE.—Information reported on special survey questionnaires (see text p.1029) by travellers remaining in Canada three or more days.

Province of Destination	Province of Entry								
	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Yukon Territory
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
Newfoundland....	0.87	0.65	—	0.01	—	—	—	—	—
P.E. Island.....	5.39	9.97	0.16	0.10	—	—	—	—	—
Nova Scotia.....	78.26	32.40	0.95	0.61	—	0.26	—	0.02	—
New Brunswick...	7.31	39.98	0.74	0.24	—	—	—	—	—
Quebec.....	6.61	14.16	89.30	11.62	0.42	—	0.25	0.10	—
Ontario.....	1.39	2.84	8.61	86.06	8.55	0.76	0.69	0.25	—
Manitoba.....	—	—	0.08	0.80	70.59	3.56	1.01	0.35	—
Saskatchewan....	—	—	—	0.08	9.24	74.55	2.34	0.68	—
Alberta.....	—	—	0.04	0.25	5.32	15.01	73.37	10.99	—
British Columbia..	0.17	—	0.12	0.19	4.48	3.56	12.89	83.78	0.88
Yukon Territory...	—	—	—	0.01	0.42	0.26	0.17	0.18	8.77
In transit.....	—	—	—	0.03 ¹	0.98 ¹	2.04 ¹	9.38 ¹	3.65 ¹	90.35 ²
Totals.....	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

¹ In transit to Alaska.

² In transit to United States.

Canadian Travel in the United States.—Canadian travel to the United States reached an all-time record in 1957 although the rate of expansion was moderate when compared with that of the two previous years. An increase of 4 p.c. during the first half of the year of the corresponding period of 1956 tapered off considerably in the following three months and in the period October to December there were actually 377,800 fewer re-entries than in the same period of 1956, a decline of more than 6 p.c. For the year as a whole, short-term travel by Canadians in the United States declined slightly but long-term travel increased by nearly 4 p.c., or by approximately 156,600 visits. In recent years the expansion of Canadian travel to the United States has been more noticeable in the winter months.

Residents of Canada spent a record \$403,000,000 on travel in the United States in 1957, a 3-p.c. increase over the previous high attained in 1956. Approximately \$8,000,000 of the additional \$12,000,000 was accounted for by long-term travellers, who spent an average of \$77.84 per visit in the United States during 1957 as compared with \$78.79 per visit in 1956. Short-term expenditures averaged \$2.54 per visit during 1957 as compared with \$2.37. Altogether, Canadians spent an average of \$14.81 on each visit to the United States during 1957, between 2 and 3 p.c. higher than the average of \$14.44 shown in 1956. On a per capita basis, residents of Canada spent \$24.21 per person on travel in the United States during 1957, an amount practically unchanged from that of the previous year. This represents a higher figure than the average per visit since, besides the effect of commuters, there are many Canadians who make several trips to the United States in a year. Canadian averages are much higher than the corresponding rates for United States visitors to Canada.

Included in the amount spent by Canadians in the United States are the purchases of merchandise while travelling. Declarations made under the \$100 customs exemption privilege totalled \$74,000,000 in 1957, an increase of \$1,400,000 or about 1 p.c. compared with the previous year. The proportion of the Canadian travel dollar being used for the purchase of merchandise by Canadians while travelling in the United States has gradually

diminished during the past few years. In 1957 about 18 p.c. of the expenditures in the United States went for the purchase of merchandise compared with 19 p.c. in 1956 and 1955, nearly 21 p.c. in 1954, and about 23 p.c. in 1953.

***Travel between Canada and Overseas Countries.**—Travel between Canada and overseas countries continued to expand in 1957 but the pattern was somewhat changed from the previous year. Visits to Canada by residents of overseas countries increased 17 p.c. as compared with 10 p.c. in 1956, while re-entries by residents of Canada returning from visits overseas advanced about 14 p.c. compared with 19 p.c. in the previous year. Non-resident visitors (other than immigrants) arriving in Canada direct from overseas countries through Canadian ports of entry numbered 36,600, an increase of approximately 6,000 over 1956. In addition, an estimated 25,000 arrived via the United States, an increase of around 3,000. Thus the number of entries direct and by way of the United States amounted to 61,600, a gain of 9,000 over the previous record of 1956.

In 1957, about 19,000 of the visitors direct from overseas countries arrived by aircraft, representing nearly 52 p.c. of the total compared with 46 p.c. in the previous three-year period. Economy flights and improved air service are no doubt an influence in this trend toward air travel. There was also a definite expansion in the use of Canadian carriers for oceanic transportation by residents of other countries in 1957. Between 42 and 43 p.c. of the visitors travelling direct from overseas countries arrived on Canadian air and steamship facilities as compared with 36 p.c. in 1956 and 33 p.c. in 1955. It is altogether probable that much of the transportation expenditure by visitors from overseas countries arriving via the United States goes to foreign carriers.

Residents of the United Kingdom account for more than half of the visitors entering Canada direct from overseas but the proportion of the total originating there declined from 57 p.c. in 1955 to 55 p.c. in 1956 and to less than 54 p.c. in 1957. The proportion originating in other Commonwealth countries remained fairly constant during the three years at from 12 to 13 p.c. The proportion from European countries other than the United Kingdom was somewhat higher in 1957 at 27 p.c., and the number originating in other countries remained unchanged at 7 p.c.

An estimated \$38,000,000 was received from residents of overseas countries, a record amount 36 p.c. above the total for 1956; in 1956 and 1955 the corresponding rates of expansion over the previous year were 12 p.c. and 14 p.c. respectively. Included in the receipts are amounts paid to Canadian carriers covering transportation fares between Canada and overseas countries. In 1957 transportation earnings amounted to over one-half the total receipts in this category.

A record was also established in the number of visits to overseas countries by residents of Canada. Canadians returning direct from overseas countries numbered 119,900, a gain of about 13 p.c. over 1956; the rate of increase had been around 20 p.c. each year since 1953. Re-entries direct to Canada were supplemented by an estimated 39,000 who returned via the United States making a total of 158,900, a gain of 19,800 visits in the aggregate or 14 p.c. over the previous year.

Survey information reported by persons returning direct to Canada from visits overseas revealed that about 36 p.c. of such travellers visited the United Kingdom only and between 31 and 32 p.c. visited the United Kingdom and other European countries compared with 33 p.c. in 1956. Visits to European countries other than the United Kingdom increased to 15 p.c. of the total from 12 p.c. the previous year, visits to the British West Indies were unchanged at 4 p.c., visits to Mexico declined from 5 p.c. in 1956 to 4 p.c. in 1957 and to Bermuda from 4 p.c. to 3 p.c. Visits to Hawaii were unchanged at 3 p.c. Less than 1 p.c. visited each of the following areas: Central America and the non-British West Indies, South America, Australia and New Zealand.

Destinations reported by Canadians returning direct to Canada varied considerably according to season. Travel to Europe accounted for 94 p.c. of the destinations reported in the third quarter of 1957 as against about 59 p.c. in the first quarter of the year, 73 p.c.

in the second quarter and 87 p.c. in the last quarter. Percentagewise, travel to the British West Indies, Mexico and Hawaii was heaviest in the first quarter of the year when 11 p.c. of the travellers reported visits to the British West Indies, between 11 and 12 p.c. to Mexico and 8 p.c. to Hawaii. Travel to these areas was at a minimum in the third quarter of the year. The first and second quarters of the year attracted more visitors to Bermuda which was given as destination by between 4 and 5 p.c. and 7 p.c. respectively of the respondents. Destinations reported by Canadians returning from overseas via the United States followed a different pattern. On a percentage basis, more persons had visited Bermuda, the British West Indies, Mexico, Central America and Hawaii the shortest route to which destination is through the United States.

It is of interest to note that approximately 42 p.c. of the travellers returning direct from overseas countries had gone to visit friends or relatives in 1957 as compared with 37 p.c. in 1956. Between 40 and 41 p.c. travelled for recreational purposes, a slight decline from 1956. About 11 p.c. travelled overseas on business, 4 p.c. for education and just over 2 p.c. for purposes of health.

Between 73 and 74 p.c. of Canadian visitors to the United Kingdom and nearly 58 p.c. of the travellers to other European countries went to visit friends or relatives. Nearly 46 p.c. of the travellers visiting both the United Kingdom and other European countries were for recreational purposes, 27 p.c. went to visit friends or relatives, and about 18 p.c. were on business. Approximately 73 p.c. of the travellers returning from other Commonwealth countries (mainly Bermuda and the British West Indies) had been on vacation, 13 p.c. went to visit friends or relatives and 5 p.c. for reasons of health. Business trips to other Commonwealth countries in 1957 accounted for more than 7 p.c. of the trips to these areas compared to 4 p.c. in 1956. Some 87 p.c. of the visits to Hawaii and 81 p.c. of the visits to Mexico were for recreation. Business trips took 21 p.c. of the visitors to Central America and between 22 and 23 p.c. of the visitors to South America. About 23 p.c. of the visitors to Central America and 29 p.c. of those travelling to South America reported visiting friends or relatives. Recreation attracted nearly 53 p.c. of the visitors to Cuba and Puerto Rico but only 39 p.c. reported this reason for travelling to South America. About 59 p.c. of the Canadian travellers returning from overseas countries via the United States reported recreation as the purpose of trip, 22 p.c. had gone to visit friends or relatives and 12 p.c. travelled on business.

Expenditures of Canadians in overseas countries reached a record \$122,000,000 in 1957, a gain of \$15,000,000 over 1956. This 14-p.c. increase may be compared with the 24-p.c. gain recorded in 1956 over 1955. For the first time since 1951 receipts from overseas visitors recorded a greater percentage gain than the travel payments to overseas countries but the debit balance between receipts and payments stood at \$84,000,000, the highest on record. The debit balance in the overseas account amounted to more than half of Canada's deficit on travel account in 1957.

Tourist Information.—Tourist information generally is supplied by the Canadian Government Travel Bureau, Ottawa, and detailed information on the National Parks and Historic Sites is available from the Department of Northern Affairs and National Resources, Ottawa. For advice regarding specific provinces or particular cities or resorts, application should be made to the provincial or municipal Bureau of Information concerned.

PART IV.—THE GOVERNMENT AND FOREIGN TRADE

Section 1.—Foreign Trade Service and Associated Agencies concerned with the Development of Foreign Trade*

Foreign trade contributes substantially to the welfare and prosperity of Canadians, largely because the productive capacity of Canada is greater than the ability of its population to consume the output of farms, factories, forests, fisheries and mines. Every effort

* Prepared in the several Branches and Divisions concerned and collated in the Trade Publicity Branch, Department of Trade and Commerce, Ottawa. The work of the Standards Branch and the Small Business Branch of the Department, which are concerned with domestic matters only, is dealt with in the Domestic Trade Chapter, pp. 940-942.

is made, therefore, to establish and maintain close commercial relations with other countries whose markets are essential to the Canadian economy. It is appreciated, however, that two-way trade should be encouraged in order that goods and services may be accepted in partial payment for the products Canada is in a position to export. Furthermore, many commodities that are not indigenous to this country must be imported. Some of these are required for industrial processes and others may be classed as consumer goods necessary for the maintenance of the Canadian standard of living.

Although many private firms have established connections in other countries that enable them to maintain a steady flow of goods in either direction, others require the assistance of government agencies in finding markets or sources of supply. Import and export controls imposed by many countries for a variety of reasons, together with postwar foreign exchange difficulties, present problems that no single firm or even an association of manufacturers, exporters or importers can solve without assistance from government representatives.

The Department of Trade and Commerce and associated agencies are at the disposal of exporters and importers engaged directly in the development of Canada's commercial relations with other countries. Services obtainable from the various branches, divisions and agencies are described below.

Agriculture and Fisheries Branch.—The main functions of this Branch include: (1) trade promotion relating to agricultural and fisheries products; (2) the programming, receiving and distributing of information on foreign agriculture and fisheries; and (3) acting as a focal point for liaison on agricultural and fisheries trade matters with the Department of Agriculture, the Department of Fisheries, the Canadian Wheat Board, and other government departments and boards.

In the field of trade promotion, the Grain Division, the Food and Agriculture Division and the Fisheries Division assist Canadian exporters of agricultural and fisheries products in finding markets in other countries. Canadian firms are supplied with information concerning market conditions and requirements in foreign markets, competition from other sources of supply, exchange and tariff restrictions and other related information. Trade Commissioners are kept fully informed on such matters as production and price trends in Canada, quantities of commodities available for export and sources of supply.

The Grain Division assists foreign governments and other buyers in the purchase of Canadian wheat, flour and other cereals. Close contact is maintained with the flour millers as well as daily liaison with the Canadian Wheat Board.

The Commodity Officers concerned with livestock and livestock products, plant products, confectionery, fish and fisheries products keep in contact with the trade and trade organizations dealing with these commodities. They are in close touch with the officers of other departments of government concerned with the disposition of Canadian production surplus to domestic requirements, and those responsible for such items as health standards, grading and inspection.

A great deal of information pertaining to foreign agriculture and fisheries is received from the Canadian Trade Commissioners. This material, which reflects foreign government policy, production trends and market information, is processed in the Branch and distributed to the departments of government concerned and others interested. Much of it is published in *Foreign Trade*. The Trade Commissioner Service includes a number of officers who deal specifically with agricultural and fisheries matters. Some of these officers are located in Canada's most important export outlets and others in those countries with which Canada competes on world markets, particularly in such commodities as wheat, coarse grains, livestock, meats and dairy products. The information received from the agricultural officers and other Trade Commissioners on foreign agricultural developments is distributed in Canada through publications issued by the Economics Division of the Department of Agriculture and by direct communication with producers and exporters. Fisheries information from abroad is passed immediately to the Department of Fisheries, the provincial departments concerned, the Fisheries Council, and to fish exporters.

Canadian Government Exhibition Commission.—The Canadian Government Exhibition Commission publicizes Canada by graphic media of all kinds and helps to sell Canadian products abroad. The Commission is solely responsible for the construction and administration of Federal Government exhibits at international expositions, trade fairs and displays outside Canada and of international trade fairs in Canada sponsored by the Government of Canada. The Commission is equipped to advise individual Canadian companies in the preparation of exhibits.

Commodities Branch.—The principal role of the Commodities Branch is active trade promotion but it also has important administrative responsibilities. In trade promotion, the Branch provides liaison with industry and the business community in Canada, and passes on information about trade opportunities brought to light by the Department's activities at home and abroad.

The Branch contains commodity specialists organized in six divisions: Engineering and Equipment, Minerals and Metals, Forest Products, Chemicals, Consumer Goods and Transportation and Trade Services. Within these divisions, individual commodity specialists are concerned with such particular groups of products as engineering services and plant equipment, electrical and electronic equipment and transportation equipment, ferrous and non-ferrous metals, lumber, pulp and paper, chemicals and petroleum products and leather and rubber, as well as a very wide range of consumer products. Commodity officers visit plants, attend the meetings of business associations, prepare trade studies and market surveys, and arrange for displays of Canadian goods abroad for the purpose of introducing them in foreign markets. It is the function of the commodity specialist to direct attention of Trade Commissioners to changes in supply conditions and to products available for export, and to relay market news received from Trade Commissioners to Canadian manufacturers and exporters.

The Branch is concerned with the administration of the Export and Import Permits Act, being particularly active in the export control field; here, among other things, it gives continuing attention to Canada's part in international arrangements for control of strategic materials. Additionally, it is responsible for the administration within Canada of the U.K. Token Import Scheme and the West Indies Liberalization Plan. It also acts as a source of commercial intelligence and provides gathering, collating and distributing information that is essential to the operation of other branches of the Department.

Economics Branch.—The Economics Branch maintains a continuous review of business conditions in Canada and conducts special studies on particular industries or on any aspect of Canada's economic development as required. Aspects of the general economic situation considered include foreign trade, investment, consumption, production, prices, incomes and employment, as well as conditions in industries and localities.

Energy Studies Branch.—This Branch follows developments relating to Canadian energy sources, prepares studies and gives advice on particular problems as they arise. The effects of United States oil import restrictions on the Canadian oil industry, Canadian gas export policy, and planning and negotiation related to co-operative international development of the Columbia River basin, are examples of the specific areas currently of interest to the Branch.

Export Credits Insurance Corporation.—The Export Credits Insurance Corporation was established under the provisions of the Export Credits Insurance Act 1944 (amended in 1946, 1948, 1954 and 1957). The Corporation, which is administered by a Board of Directors including the Deputy Minister of Trade and Commerce, the Deputy Minister of Finance and the Governor of the Bank of Canada, insures persons carrying on business in Canada against risks involved in the export, manufacture, treatment or distribution of goods or the rendering of engineering, construction, technical or similar services. The main risks covered include: insolvency or protracted default on

the part of the buyer; exchange restrictions in the buyer's country preventing the transfer of funds to Canada; cancellation of an import licence or the imposition of restrictions on the importation of goods not previously subject to restrictions; the occurrence of war between the buyer's country and Canada, or of war, revolution, etc., in the buyer's country.

The insurance is available under three main classifications: general commodities, capital goods, and services. Coverage for general commodities may be procured by exporters under two types of policies: the Contracts Policy, which insures an exporter against loss from the time he books the order until payment is received; or the Shipments Policy, obtainable at lower rates of premium and covering the exporter from the time of shipment until payment is received. These policies are issued on a yearly basis, covering exporters' sales to all countries.

Insurance of capital goods offers protection to exporters dealing in plant equipment, heavy machinery, etc., where extended credit for lengthy periods is often necessary. Specific policies are issued for transactions involving capital goods but the general terms and conditions are the same as those applicable to policies for general commodities. Specific policies are also issued to cover engineering, construction, technical or similar services contracts entered into between Canadian firms and persons in foreign countries who have agreed to purchase such services.

The Corporation insures exporters on a co-insurance basis up to a maximum of 85 p.c. of the gross invoice value of shipments. This co-insurance basis also operates in the distribution of recoveries obtained after payment of a loss, and these recoveries are shared by the Corporation and the exporter in the proportions of 85 and 15 p.c., respectively.

The Corporation, from its inception to Dec. 31, 1957, insured export sales valued at \$422,000,000. Premium income was \$3,762,223 and gross claims paid to exporters during the same period amounted to \$9,431,017. Most of these claims resulted from exchange transfer difficulties, relatively few arising from insolvencies. Recoveries made amounted to \$6,141,409. The balance at credit of the underwriting reserve as at Dec. 31, 1957, was \$2,437,501.

Industrial Development Branch.—This Branch co-ordinates the assistance offered by the Federal Government in the establishment of new industries in Canada. Acting in this capacity, information is provided on a multiplicity of matters pertaining to industry establishment. The Branch assists also in solving the variety of problems encountered by Canadian and foreign businessmen. It also aids those established firms that wish to expand into new lines of production. Inquiries from foreign firms and individuals regarding the manufacture of products in Canada under licence or royalty are screened and brought to the attention of Canadian manufacturers interested in producing additional items.

The Branch acts in an advisory capacity to the Immigration Branch of the Department of Citizenship and Immigration regarding the admission of individuals, other than those from Commonwealth countries, who wish to establish new industries in Canada. It also works in close co-operation with a widespread network of organizations throughout Canada, including industrial development departments of the provinces, municipalities, railways, banks, power companies, chambers of commerce, boards of trade, and the Canadian Manufacturers' Association.

International Economic and Technical Co-operation Division.—The administration of Canada's participation in the Colombo Plan, the Canada-West Indies Bilateral Aid Programme and the Canada-Ghana Bilateral Aid Programme, is the responsibility of this Division. These plans and programs are a co-operative effort to help raise the standards of living of the people and the economic potential of the countries in the areas concerned. Contribution is of two types—capital assistance and technical co-operation. Capital assistance grants for goods and services are made on a government-to-government basis, while technical co-operation embraces the training, in Canada, of selected *trainees* in the various fields of endeavour, and the sending of Canadian *experts* to advise and instruct in the countries participating. The Division also assists the United Nations and its

Specialized Agencies in the recruiting of technical experts and in the arrangement of courses of instruction for UN trainees sent to Canada for study. For the year ended Mar. 31, 1958, \$34,400,000 was voted by Parliament for the Colombo Plan, making a cumulative total of \$196,670,000 and, as a first contribution to the other aid programs, \$150,000 was voted for joint use in providing assistance to the West Indies and Ghana.

International Trade Relations Branch.—This Branch deals with a wide variety of current trade issues, ranging from the analysis of developments in international commercial relations to assisting in the re-opening of dollar markets for Canadian products and to finding practical solutions for tariff and other difficulties encountered by Canadian exporters. The Branch has under constant review Canada's trading relations with other countries, and participates in conferences and negotiations under the General Agreement on Tariffs and Trade. In addition, the Branch is concerned with the effects of the work of such international organizations as the Organization for European Economic Co-operation on Canadian and world trade.

Trade treaties are under continuous examination by the Branch, which is responsible for the preparation of material for trade and tariff negotiations with other countries. Material is collected on foreign tariffs, customs legislation, taxes affecting trade, import licensing, exchange regulations, documentation, sanitation, marking and labelling requirements, and measures pertaining to quotas, embargoes and other import restrictions. These data are analysed, interpreted, clarified and made available in easily comprehensible form to exporters, government officials and other export interests.

Exporters who encounter difficulties resulting from the trade policies or regulations of other countries are given expert advice and interpretation of foreign regulations. Also, the Branch initiates official consultations with other governments respecting such problems.

Trade Commissioner Service.—The Canadian Trade Commissioner Service is one of the important instruments in the continuous effort to increase Canadian international trade, to give world-wide distribution to Canadian products and to locate the best sources of supply for imports. Headquarters are at Ottawa, and 59 offices are maintained in 45 countries, staffed with trained Canadian trade officials and commodity specialists. The work of the Trade Commissioners in the field is co-ordinated in Ottawa by five Area Trade Officers. These Officers are familiar with every aspect of foreign trade in their geographical or political areas and are responsible to the Director of the Service for the collection, preparation and presentation of information on all trade matters in their respective territories.

Trade Commissioners bring together exporters and importers of Canada and other countries. They study potential markets for specific Canadian products and report on the exact kind of goods in demand, prices, competitive conditions, trade and exchange regulations, tariffs, shipping and packaging requirements, labelling, etc. Inquiries for Canadian goods are forwarded to the Department at Ottawa or directly to interested Canadian firms. For Canadian importers, Trade Commissioners seek sources of supply of a wide variety of goods. The preparation of economic and other reports for departmental use is an important activity for the Trade Commissioner. Assistance is given to Canadian exhibitors at overseas trade fairs and constant liaison is maintained with the trade departments of foreign governments.

In countries where Canada maintains a diplomatic mission and a trade office, Trade Commissioners form an integral part of the mission and assume the title of Commercial Counsellor or Commercial Secretary. In some foreign countries they act as Consuls General, Consuls or Vice-Consuls, according to their status as Foreign Service Officers.

In order to provide Canadian manufacturers, exporters and importers with up-to-date information concerning their territories more effectively than is possible by correspondence, tours of Canadian industrial centres are arranged from time to time for Trade Commissioners. Such direct contacts enable specific problems to be discussed and at the same time serve to bring into focus for the Trade Commissioner the Canadian industrial picture as a whole.

CANADIAN FOREIGN TRADE OFFICES ABROAD, AS AT JAN. 1, 1959

- ARGENTINA.—Commercial Counsellor, Canadian Embassy, Bartolome Mitre 478, Buenos Aires.
- AUSTRALIA.—Commercial Counsellor for Canada, 7th Floor, Berger House, 82 Elizabeth Street, Sydney, N.S.W.
Commercial Counsellor for Canada, 83 William Street, Melbourne.
- AUSTRIA.—Commercial Secretary for Canada, Opernringhof, Opernring 1, Vienna 1. Territory includes Czechoslovakia and Hungary.
- BELGIAN CONGO.—Canadian Government Trade Commissioner, Forescom Bldg., Leopoldville 1. Territory includes Angola and French Equatorial Africa.
- BELGIUM.—Commercial Counsellor, Canadian Embassy, 35 rue de la Science, Brussels. Territory includes Luxembourg.
- BRAZIL.—Commercial Counsellor, Canadian Embassy, Edificio Metropole, Av. Presidente Wilson 165, Rio de Janeiro.
Consul and Trade Commissioner, Canadian Consulate, Edificio Alois, Rua 7 de Abril 252, São Paulo.
- CEYLON.—Commercial Secretary, Office of the High Commissioner for Canada, 6 Gregory's Road, Cinnamon Gardens, Colombo.
- CHILE.—Commercial Secretary, Canadian Embassy, 6th Floor, Av. General Bulnes, 129, Santiago.
- COLOMBIA.—Commercial Secretary and Consul, Canadian Embassy, Edificio Banco de Los Andes, Carrera 10, No. 16-92, Bogota. Territory includes Ecuador.
- CUBA.—Commercial Secretary, Canadian Embassy, Edificio Ambar Motors, Avenida Menocal 16, Havana.
- DENMARK.—Commercial Counsellor, Canadian Embassy, 4 Trondhjems Plads, Copenhagen. Territory includes Greenland and Poland.
- DOMINICAN REPUBLIC.—Commercial Counsellor, Canadian Embassy, Edificio Copello 408, Calle El Conde, Ciudad Trujillo. Territory includes Puerto Rico.
- FRANCE.—Commercial Counsellor, Canadian Embassy, 35 Ave. Montaigne, Paris 8°. Territory includes Algeria, French West Africa, Morocco, Tangier and Tunisia.
- GERMANY, FEDERAL REPUBLIC OF.—Commercial Counsellor, Canadian Embassy, 22 Zitelmannstrasse, Bonn.
Consul, Canadian Consulate, 69 Ferdinandstrasse, Hamburg.
- GHANA.—Commercial Counsellor, Office of the High Commissioner for Canada, E115/3 Independence Ave., Accra. Territory includes Gambia, Nigeria and Sierra Leone.
- GREECE.—Commercial Counsellor, Canadian Embassy, 31 Vassilissis Sophias Ave., Athens. Territory includes Israel and Turkey.
- GUATEMALA.—Canadian Government Trade Commissioner, 5 Avenida, 10-68, Zone I, Guatemala City. Territory includes Costa Rica, El Salvador, Honduras, Nicaragua, Panama and Canal Zone.
- *HAITI.—Chargé d'Affaires *ad interim* and Consul, Canadian Embassy, Route du Canape Vert, St. Louis de Turgeau, Port au Prince.
- HONG KONG.—Canadian Government Trade Commissioner, Hong Kong and Shanghai Banking Corporation Bldg., Hong Kong. Territory includes Cambodia, Laos, Vietnam, Macao and China.
- INDIA.—Commercial Counsellor, Office of the High Commissioner for Canada, 4 Aurangzeb Road, New Delhi.
Canadian Government Trade Commissioner, Gresham Assurance House, Mint Road, Bombay. Territory includes Goa.

* No Foreign Trade Officer at this post.

- INDONESIA.—Commercial Secretary, Canadian Embassy, Djl. Budi Kemuliaan No. 6, Djakarta.
- IRAN.—Commercial Counsellor, Canadian Legation, Teheran.
- IRELAND.—Commercial Counsellor for Canada, 66 Upper O'Connell St., Dublin.
- ITALY.—Commercial Counsellor, Canadian Embassy, Via G. B. de Rossi 27, Rome. Territory includes Libya, Malta and Yugoslavia.
- JAPAN.—Commercial Counsellor, Canadian Embassy, Tokyo. Territory includes South Korea.
- LEBANON.—Commercial Secretary, Canadian Embassy, Alpha Building, Rue Clemenceau, Beirut. Territory includes Iraq, Jordan, Persian Gulf Area, and Syrian region of the United Arab Republic.
- MEXICO.—Commercial Counsellor, Canadian Embassy, Melchor Ocampo 463, 7th Floor, Mexico 5, D.F.
- NETHERLANDS.—Commercial Counsellor, Canadian Embassy, Sophialaan 5-7, The Hague.
- NEW ZEALAND.—Commercial Counsellor, Office of the High Commissioner for Canada, Government Life Insurance Bldg., Wellington. Territory includes Fiji and Western Samoa and French Oceania.
- NORWAY.—Commercial Counsellor, Canadian Embassy, Fridtjof Nansens Plass 5, Oslo. Territory includes Iceland.
- PAKISTAN.—Commercial Secretary, Office of the High Commissioner for Canada, Hotel Metropole, Victoria Road, Karachi. Territory includes Afghanistan.
- PERU.—Commercial Secretary, Canadian Embassy, Edificio Boza, Carabaya 831, Plaza San Martin, Lima. Territory includes Bolivia.
- PHILIPPINES.—Consul General and Trade Commissioner, Canadian Consulate General, Ayala Bldg., Juan Luna Street, Manila. Territory includes Taiwan.
- PORTUGAL.—Commercial Counsellor, Canadian Embassy, Rua Marques de Fronteira, No. 8-4°D°, Lisbon. Territory includes Azores, Cape Verde Islands, Madeira, and Portuguese Guinea.
- RHODESIA AND NYASALAND, FEDERATION OF.—Canadian Government Trade Commissioner, Offices 110-113 Central Africa House, Corner First St./Gordon Ave., Salisbury. Territory includes Kenya, Seychelles Islands, Tanganyika, Uganda and Zanzibar.
- SINGAPORE.—Canadian Government Trade Commissioner, Rooms 4, 5 and 6, American International Bldg., Robinson Road and Telegraph St., Singapore. Territory includes Brunei, Burma, Federation of Malaya, North Borneo, Sarawak and Thailand.
- SOUTH AFRICA.—Canadian Government Trade Commissioner, Mutual Bldg., Harrison Street, Johannesburg. Territory includes Natal, Transvaal, Orange Free State, Madagascar, Mauritius, Mozambique, and Reunion.
- Canadian Government Trade Commissioner, 602 Norwich House, The Foreshore, Cape Town. Territory includes Cape Province, St. Helena, and Southwest Africa.
- SPAIN.—Commercial Counsellor, Canadian Embassy, Edificio España, Avenida de Jose Antonio 88, Madrid. Territory includes Balearic Islands, Canary Islands, Gibraltar, Rio Muni and Rio de Oro.
- SWEDEN.—Commercial Counsellor, Canadian Embassy, Strandvagen, 7-C, Stockholm. Territory includes Finland.
- SWITZERLAND.—Commercial Counsellor, Canadian Embassy, Kirchenfeldstrasse 88, Berne.
- UNITED ARAB REPUBLIC EGYPTIAN REGION.—Commercial Secretary, Canadian Embassy, 6 Sharia Rouston Pasha, Garden City, Cairo. Territory includes Aden, Sudan, Cyprus, Ethiopia, Saudi Arabia and Yemen.
- UNITED KINGDOM.—Minister (Commercial), Office of the High Commissioner for Canada, Canada House, Trafalgar Square, London, S.W.1.
Canadian Government Trade Commissioner, Martins Bank Building, Water Street, Liverpool.
Canadian Government Trade Commissioner, 36 Victoria Square, Belfast, Northern Ireland.
- UNITED STATES.—Minister (Commercial), Canadian Embassy, 1746 Massachusetts Avenue N.W., Washington 6, D.C.
Deputy Consul General (Commercial), Canadian Consulate General, 680 Fifth Avenue, New York City 19, N.Y.

UNITED STATES.—concluded

Consul and Trade Commissioner, Canadian Consulate General, 532 Little Bldg., 80 Boylston Street, Boston 16, Mass.

Consul and Trade Commissioner, Canadian Consulate General, 111 North Wabash Ave., Chicago, Ill.

Consul and Trade Commissioner, Canadian Consulate, 1139 Penobscot Bldg., Detroit 26, Mich.

Consul and Trade Commissioner, Canadian Consulate General, 510 West Sixth Street, Los Angeles 14, Cal.

Consul and Trade Commissioner, Canadian Consulate General, 215-217 International Trade Mart, New Orleans 12, La.

*Consul General, Canadian Consulate General, 3rd Floor, Kohl Bldg., 400 Montgomery Street, San Francisco 4, Cal.

*Consul General, Canadian Consulate General, The Tower Bldg., Seventh Avenue at Olive Way, Seattle 1, Wash.

URUGUAY.—Commercial Counsellor, Canadian Embassy, No. 1409 Avenida Agraciada, Piso 7°, Montevideo. Territory includes Paraguay and Falkland Islands.

VENEZUELA.—Commercial Counsellor, Canadian Embassy, Edificio Pan American, Avenida Urdaneta, Puente Urapal, Candelaria, Caracas. Territory includes Netherlands Antilles.

WEST INDIES.—Commissioner for Canada, Colonial Bldg., 72 South Quay, Port-of-Spain. Territory includes Barbados, Trinidad and Tobago, Windward and Leeward Islands, British Guiana, French Guiana, Surinam, Guadeloupe and Martinique.

Canadian Government Trade Commissioner, Barclays Bank Building, King Street, Kingston. Territory includes Jamaica, the Bahamas and British Honduras.

Trade Publicity Branch.—The principal function of the Trade Publicity Branch is to promote trade between Canada and other countries in the publicity field. It furnishes the commercial community of Canada with information concerning the assistance that exporters and importers may obtain from the Department of Trade and Commerce. The Branch is responsible also for stimulating a better appreciation by the general public of the importance of trade to the welfare of Canada. The attention of exporters and potential exporters is directed to opportunities for the disposal of their products in markets abroad, and of importers to sources of supply for raw materials and consumer goods unobtainable in Canada. Its principal educational and informative medium is *Foreign Trade*, fortnightly publication of the Foreign Trade Service, in which are reproduced reports of Canadian Trade Commissioners on conditions in their respective territories, articles by Head Office personnel and economists of the Dominion Bureau of Statistics, news items and charts portraying trade trends. Press releases are prepared and distributed to newspapers at home, and material of similar character dispatched to Canadian Trade Commissioners for distribution to newspapers abroad. Pamphlets and brochures are prepared to supplement other information on foreign markets, sources of supply, documentation, regulations and trade restrictions. Assistance is rendered to correspondents of newspapers and periodicals at home and abroad in the preparation of articles pertaining to various phases of Canada's foreign trade. The educational and promotional work of this Branch is supported by moderate advertising at home and abroad through the daily press, periodicals and trade papers, and by films and radio.

Section 2.—The Development of Tariffs

A short sketch of trade and tariffs prior to Confederation is given in the 1940 Year Book, pp. 480-482. The 1942 Year Book, pp. 427-428, traces the development from Confederation to the adoption in 1904 of the present form of preferential tariff.

Limitations of space in the Year Book have made it necessary, in regard to tariffs, to adopt the policy of confining any detail regarding commodities and countries to tariff relationships in force at present and to summarize as much as possible historical data and details of preceding tariffs, giving references to those editions of the Year Book where extended treatments may be found.

* No Foreign Trade Officer at this post.

Subsection 1.—The Canadian Tariff Structure*

The Canadian Tariff consists, in the main, of three sets of tariff rates—British Preferential, Most-Favoured-Nation, and General.

British Preferential Tariff rates are, with some exceptions, the lowest rates. They are applied to imported dutiable commodities shipped direct to Canada from countries of the Commonwealth and from the British colonies and other dependent overseas territories. Some Commonwealth countries have trade agreements with Canada which provide for rates of duty, on certain specified goods, lower than the British Preferential rates.

Most-Favoured-Nation rates are usually higher than the British Preferential rates and lower than the General Tariff rates. They are applied to commodities imported from countries outside the Commonwealth with which Canada has made trade agreements. The most important trade agreement concerning the effective rates applied to goods imported from countries entitled to Most-Favoured-Nation rates is the General Agreement on Tariffs and Trade (GATT).

General Tariff rates are applied to goods imported from the few countries with which Canada has not made trade agreements.

There are numerous goods which are duty free under the British Preferential Tariff, or under both the British Preferential and Most-Favoured-Nation Tariff, or under all Tariffs.

Valuation.—In general, the Customs Act, as amended effective Sept. 6, 1958, provides that the value for duty of imported goods shall be the fair market value of like goods as established in the home market of the exporter at the time when and place from which the goods are shipped directly to Canada when sold "(a) to purchasers located at that place with whom the vendor deals at arm's length and who are at the same or substantially the same trade level as the importer, and (b) in the same or substantially the same quantities for home consumption in the ordinary course of trade under competitive conditions". In cases where like goods are not sold for home consumption but similar goods are sold, the value for duty shall be the cost of production of the goods imported plus an amount for gross profit at least equal in percentage to that earned on the sale of similar goods in the country of export. The value for duty may, in no case, be less than the amount for which the goods were sold to the purchaser in Canada, exclusive of all charges thereon after their shipment from the country of export. Internal taxes in the country of export (when not incurred on exported goods), the cost of shipping goods to Canada and similar charges, do not normally form part of the value for duty. There are, of course, further provisions for determining value for duty under the Act.

Dumping.—Sect. 6 of the Customs Tariff provides that when the actual selling price of goods being imported is less than their fair market value and the goods are of a class or kind made or produced in Canada, a special or dumping duty shall be collected. This duty is to be equal to the difference between the actual selling price and the fair market value of the goods, except that it may not be more than 50 p.c. of the value for duty. These provisions are designed to offset the advantage foreign exporters may achieve by exporting to Canada at less than the going prices.

Drawback.—There are provisions in the Customs and Excise Tax Acts for the repayment of a portion of the duty, sales and/or excise taxes paid on imported goods used in the manufacture of products later exported. The purpose of these drawbacks (as these repayments are called) is to assist Canadian manufacturers to compete in foreign markets with foreign producers of similar goods. A second class of drawback, known as "home consumption" drawbacks, is provided for under the Customs Tariff Act and applies to imported materials and/or parts used in the production of specified goods to be consumed in Canada.

* Information relating to rate of duty and value for duty is available from the Department of National Revenue, Customs and Excise Division, which administers the Customs Act and the Customs Tariff Act.

The Tariff Board.—The Tariff Board, constituted by the Tariff Board Act 1931, consists of five members, one of whom is chairman and two are vice-chairmen. The duties and powers of the Board derive from three Statutes of Canada: the Tariff Board Act, the Customs Act, and the Excise Tax Act.

Under the Tariff Board Act, the Board makes inquiry into and reports upon any matter in relation to goods that, if brought into Canada or produced in Canada, are subject to or exempt from duties of customs or excise and on which the Minister of Finance desires information. The investigation into any such matter may include inquiry as to the effect that an increase or decrease of the existing rate of duty upon a given commodity might have upon industry or trade and the extent to which the consumer is protected from exploitation. It is also the duty of the Board to inquire into any other matter in relation to the trade and commerce of Canada that the Governor in Council sees fit to refer to the Board for inquiry and report. Usually the references take one of two forms: authority for review of sections of the Customs Tariff relating to an entire industry, or for investigation in respect of specified commodities. Reports are tabled in Parliament.

Under the provisions of the Customs Act and the Excise Tax Act, the Tariff Board acts as a court to hear appeals from rulings of the Department of National Revenue in respect of matters of administration including those of excise taxes, tariff classification, value for duty, and drawback of customs duties. Declarations of the Board on appeals on questions of fact are final and conclusive, with provision for appeal on questions of law to the Exchequer Court of Canada. Tariff references and appeals receive public hearings at which interested parties submit oral statements and written briefs relating to matters under consideration.

Subsection 2.—Tariff and Trade Arrangements with Other Countries as at Nov. 1, 1958

Canada's tariff arrangements with other countries fall into three main categories: trade agreements with a number of Commonwealth countries; the General Agreement on Tariffs and Trade (GATT); and other agreements and arrangements.

The Commonwealth countries with which Canada has trade agreements are as follows: Australia, British West Indies, New Zealand, Federation of Rhodesia and Nyasaland, Union of South Africa and the United Kingdom and Colonies. Preferences are accorded by Canada to India and Pakistan. Tariff relations between Canada and Ceylon, Ghana and the Federation of Malaya are governed by the Canada-United Kingdom agreement. These agreements and arrangements have been modified and supplemented by GATT. Canada exchanges most-favoured-nation treatment with 36 countries under the General Agreement on Tariffs and Trade. The protocol of Provisional Application of the General Agreement on Tariffs and Trade was signed by Canada on Oct. 30, 1947, and brought the Agreement provisionally into force on Jan. 1, 1948.

GATT is a multilateral trade agreement providing for scheduled tariff concessions and the exchange of most-favoured-nation treatment among the contracting parties and laying down rules and regulations to govern the conduct of international trade. Under the system of multilateral tariff negotiations initiated under GATT, four general rounds of negotiations have taken place: at Geneva, Switzerland, in 1947; at Annecy, France, in 1949; at Torquay, England, in 1950-51; and again at Geneva in 1955-56. The tariff concessions Canada granted and received at the first Geneva Conference are described in the 1948-49 Year Book, pp. 875-877, and those negotiated at Annecy are discussed in the 1950 Year Book, pp. 968-970. The Torquay negotiations are discussed in the 1952-53 edition, pp. 996-997. The existing tariff concessions remain in force until Jan. 1, 1961, and thereafter unless modified in accordance with the terms of the Agreement.

Canada already had most-favoured-nation trade agreements with a number of GATT members prior to the effective date of the General Agreement. These agreements with individual countries continue in force in conjunction with the General Agreement. As an exception, however, the Canada-U.S. Trade Agreement of 1938 is suspended for so long as both countries continue to be contracting parties to GATT.

Other arrangements include a trade agreement with the Republic of Ireland, exchanging preferences, and most-favoured-nation agreements with many countries not contracting parties to GATT.

**Tariff and Trade Arrangements with Commonwealth Countries as at
Nov. 1, 1958**

Country	Agreement	Principal Terms
AUSTRALIA.....	Trade Agreement signed July 8, 1931; in force Aug. 3, 1931. GATT effective Jan. 1, 1948.	Agreement includes schedules of tariff rates and exchange of British preferential rates on items not scheduled. May be terminated on six months notice.
BRITISH WEST INDIES (BAHAMAS, BARBADOS, JAMAICA, LEEWARD AND WINDWARD ISLANDS, TRINIDAD AND TOBAGO), BERMUDA, BRITISH GUIANA, AND BRITISH HONDURAS.	Trade Agreement signed July 6, 1925, in force Apr. 30, 1927; Canadian notice of termination of Nov. 23, 1938, was replaced by notice of Dec. 27, 1939, which continued the Agreement. The British West Indies (except Jamaica), Bermuda, British Guiana and British Honduras participate in GATT.	The parties exchange specified tariff preferences. Agreement may be terminated on six months notice.
CEYLON.....	Relations continue to be governed by the Trade Agreement of 1937 between Canada and the United Kingdom. GATT effective July 29, 1948.	Canada and Ceylon exchange preferential tariff treatment.
GHANA.....	Relations continue to be governed by the Trade Agreement of 1937 between Canada and the United Kingdom. GATT effective Oct. 18, 1957.	Canada grants Ghana the British preferential rates, except on cocoa beans.
INDIA.....	Since 1897 Canada has unilaterally accorded British preferential treatment to India but without contractual obligation. GATT effective July 8, 1948.	In addition to preferences granted to India, most-favoured-nation treatment is exchanged under GATT.
MALAYA, FEDERATION OF...	Relations continue to be governed by the Trade Agreement of 1937 between Canada and the United Kingdom. GATT effective Oct. 24, 1957.	Canada grants Malaya British preferential rates in return for such preferences as exist in the Malayan tariff.
NEW ZEALAND.....	Trade Agreement signed Apr. 23, 1932; in force May 24, 1932. GATT effective July 26, 1948.	The parties exchange specific preferences on scheduled goods and reciprocally concede British preferential rates on items not scheduled. May be terminated on six months notice.
PAKISTAN.....	Canada unilaterally accords Pakistan British preferential treatment but without contractual obligation. GATT effective July 30, 1948.	In addition to preferences granted to Pakistan, most-favoured-nation treatment is exchanged under GATT.

**Tariff and Trade Arrangements with Commonwealth Countries as at
Nov. 1, 1958—concluded**

Country	Agreement	Principal Terms
RHODESIA AND NYASALAND, FEDERATION OF.	Trade Agreement signed Feb. 6, 1958; in force Feb. 7, 1958. GATT effective in Southern Rhodesia May 19, 1948; extended to whole Federation, Oct. 29, 1954.	Canada exchanges preferential tariffs with the Federation.
UNION OF SOUTH AFRICA...	Trade Agreement signed Aug. 20, 1932; in force Oct. 13, 1932. Exchange of notes Aug. 2-31, 1935; effective retroactive from July 1, 1935. GATT effective June 14, 1948.	Agreement includes schedules of tariff preferences granted by each country. May be terminated on six months notice. Exchange of most-favoured-nation treatment. May be terminated on six months notice.
UNITED KINGDOM.....	Trade Agreement signed Feb. 23, 1937; in force Sept. 1, 1937. Modified by an exchange of letters of Nov. 16, 1938, and an exchange of notes Oct. 30, 1947. GATT effective Jan. 1, 1948.	Various concessions by both countries including exchange of preferential tariff rates (some minor reservations by Canada). Extends to Colonies.
WEST INDIES, FEDERATION OF THE (TRINIDAD, JAMAICA, BARBADOS, LEEWARD AND WIND- WARD Islands).	Trade relations continue to be governed by the Canada-British West Indies Agreement (see p. 1043).	

**Tariff and Trade Arrangements with Non-Commonwealth Countries as at
Nov. 1, 1958**

Country	Agreement	Principal Terms
ARGENTINA.....	Trade Agreement signed Oct. 2, 1941; provisionally in force Nov. 15, 1941.	Exchange of most-favoured-nation treatment. Provisional application may be terminated on three months notice.
AUSTRIA.....	GATT effective Oct. 19, 1951.	Exchange of most-favoured-nation treatment.
BELGIUM-LUXEMBOURG....	Convention of Commerce with Belgium-Luxembourg Economic Union (including Belgian colonies) entered into effect Oct. 22, 1924. GATT effective Jan. 1, 1948.	Exchange of most-favoured-nation treatment. May be terminated on one years notice.
BOLIVIA.....	Order in Council of July 20, 1935, accepted Article 15 of the United Kingdom-Bolivia Treaty of Commerce of Aug. 1, 1911.	Exchange of most-favoured-nation treatment. May be terminated on one years notice.

**Tariff and Trade Arrangements with Non-Commonwealth Countries as at
Nov. 1, 1958—continued**

Country	Agreement	Principal Terms
BRAZIL.....	Trade Agreement signed Oct. 17, 1941; provisionally in force from date of signing and definitively on Apr. 16, 1943. GATT effective July 31, 1948.	Exchange of most-favoured-nation treatment. May be terminated on six months notice.
BURMA.....	GATT effective July 29, 1948.	Exchange of most-favoured-nation treatment.
CAMBODIA.....	Franco-Canadian Trade Agreement of 1933 applied to Cambodia.	Since the creation of Cambodia as an independent State in 1955, Canada has continued to grant most-favoured-nation rates.
CHILE.....	Trade Agreement signed Sept. 10, 1941; provisionally in force Oct. 15, 1941, and definitively on Oct. 29, 1943. GATT effective Mar. 16, 1948.	Exchange of most-favoured-nation treatment. May be terminated on six months notice.
CHINA.....	<i>Modus vivendi</i> signed Sept. 26, 1946; in effect since Sept. 28, 1946.	Exchange of most-favoured-nation treatment. May be terminated on three months notice.
COLOMBIA.....	Treaty of Commerce with United Kingdom of Feb. 16, 1866, applies to Canada. Modified by protocol of Aug. 20, 1912, and exchange of notes Dec. 30, 1938. A Trade Agreement between Colombia and Canada was signed Feb. 20, 1946, but has not been put into force.	Exchange of most-favoured-nation treatment. May be terminated on three months notice.
COSTA RICA.....	<i>Modus vivendi</i> signed Nov. 18, 1950; brought into force Jan. 26, 1951.	Exchange of most-favoured-nation treatment. May be terminated on three months notice.
CUBA.....	GATT effective Jan. 1, 1948.	Exchange of most-favoured-nation treatment (excluding preferences accorded by Cuba to the United States).
CZECHOSLOVAKIA.....	Convention of Commerce signed Mar. 15, 1928; in force Nov. 14, 1928. GATT effective May 21, 1948.	Exchange of most-favoured-nation treatment. May be terminated on one years notice.
DENMARK (including GREENLAND).	Treaties of Peace and Commerce with United Kingdom of Feb. 13, 1660 and July 11, 1670, apply to Canada. GATT effective May 28, 1950.	Exchange of most-favoured-nation treatment. Declaration of May 9, 1912, provides means for separate termination by Dominions on one years notice.
DOMINICAN REPUBLIC.....	Trade Agreement signed Mar. 8, 1940; in force provisionally Mar. 15, 1940, and definitively Jan. 22, 1941. GATT effective May 19, 1950.	Exchange of most-favoured-nation treatment including scheduled concessions. May be terminated on six months notice.
ECUADOR.....	<i>Modus vivendi</i> signed Nov. 10, 1950; in force Dec. 1, 1950.	Exchange of most-favoured-nation treatment. May be terminated on three months notice.

**Tariff and Trade Arrangements with Non-Commonwealth Countries as at
Nov. 1, 1958—continued**

Country	Agreement	Principal Terms
EGYPT.....	Exchange of notes Nov. 26 and Dec. 3, 1952; in force Dec. 3, 1952.	Exchange of most-favoured-nation rates. May be terminated on six months notice.
EL SALVADOR.....	Exchange of notes of Nov. 2, 1937; in force Nov. 17, 1937.	Exchange of most-favoured-nation treatment. May be terminated on four months notice.
ETHIOPIA.....	Exchange of notes effective June 3, 1955.	Exchange of most-favoured-nation treatment.
FINLAND.....	Exchange of notes of Nov. 13-17, 1948; effective Nov. 17, 1948. GATT effective May 25, 1950.	Exchange of most-favoured-nation treatment. May be terminated on three months notice.
FRANCE AND FRENCH OVER-SEAS TERRITORIES.	Trade Agreement signed May 12, 1933; in force June 10, 1933. Exchange of notes of Sept. 29, 1934, and additional protocol of Feb. 26, 1935. GATT effective Jan. 1, 1948.	Exchange of most-favoured-nation treatment including scheduled concessions. May be terminated on three months notice.
GERMANY, FEDERAL REPUBLIC OF.	GATT effective Oct. 1, 1951.	Exchange of most-favoured-nation treatment.
GREECE.....	<i>Modus vivendi</i> by exchange of notes of July 24-28, 1947; effective Aug. 28, 1947. GATT effective Mar. 1, 1950.	Exchange of most-favoured-nation treatment. May be terminated on three months notice.
GREENLAND.....	(See Denmark)	
GUATEMALA.....	Trade Agreement signed Sept. 28, 1937; in force Jan. 14, 1939.	Exchange of most-favoured-nation treatment. May be terminated on six months notice.
HAITI.....	Trade Agreement signed Apr. 23, 1937; in force Jan. 10, 1939. GATT effective Jan. 1, 1950.	Exchange of most-favoured-nation treatment. May be terminated on six months notice.
HONDURAS.....	Exchange of notes signed July 11, 1956, effective July 18, 1956. Ratified in Honduras Sept. 5, 1956.	Exchange of most-favoured-nation treatment. May be terminated on three months notice.
ICELAND.....	Although there is no contractual obligation, Canada and Iceland adhere to the terms of a treaty originally concluded between Denmark and the United Kingdom on Feb. 13, 1660.	Exchange of most-favoured-nation treatment.
INDONESIA.....	GATT effective Mar. 1, 1948.	Exchange of most-favoured-nation treatment.
IRAN.....	Special arrangement by Order in Council effective Feb. 1, 1951.	Canada grants most-favoured-nation tariff rates as long as Iran accords reciprocal treatment.
IRAQ.....	Special arrangement by Order in Council effective Sept. 15, 1951.	Canada grants and receives most-favoured-nation tariff rates.

**Tariff and Trade Arrangements with Non-Commonwealth Countries as at
Nov. 1, 1958—continued**

Country	Agreement	Principal Terms
IRELAND.....	Trade Agreement signed Aug. 20, 1932; in force Jan. 2, 1933.	Canada grants British preferential tariff in return for preferential rates where such exist and for most-favoured-nation rates on non-preferential items. May be terminated on six months notice.
ISRAEL.....	Canada-United Kingdom Agreement of 1937 applied under the British Palestine Mandate.	Since the creation of the State of Israel in May 1948, Canada has continued to grant most-favoured-nation rates.
ITALY.....	<i>Modus vivendi</i> by exchange of notes of Apr. 23-28, 1948; effective Apr. 28, 1948. GATT effective Jan. 1, 1950.	Exchange of most-favoured-nation treatment. May be terminated on three months notice.
JAPAN.....	Agreement on Commerce signed Mar. 31, 1954; effective June 7, 1954. GATT effective Sept. 10, 1955.	Exchange of most-favoured-nation treatment. Remains in force for one year from ratification and thereafter unless terminated on three months notice.
LAOS.....	Franco-Canadian Trade Agreement of 1933 applied to Laos.	Since the creation of Laos as an independent State in 1955, Canada has continued to grant most-favoured-nation rates.
LEBANON.....	Special arrangement by Order in Council of Nov. 19, 1946.	Canada grants most-favoured-nation tariff rates as long as Lebanon accords reciprocal treatment.
LIBERIA.....	Special arrangement by Order in Council of June 3, 1955.	Canada grants most-favoured-nation tariff rates as long as Liberia accords reciprocal treatment.
LIECHTENSTEIN.....	(See Switzerland)	
LUXEMBOURG.....	(See Belgium)	
MEXICO.....	Trade Agreement signed Feb. 8, 1946; in force provisionally same date. Ratifications exchanged on May 6, 1947; definitively in force 30 days from that date.	Exchange of most-favoured-nation treatment. May be terminated on six months notice.
MOROCCO.....	Various agreements applied to French, Spanish and International Zones of Morocco.	Since the creation of Morocco as a independent State in 1956, Canada has continued to grant most-favoured-nation rates.
NETHERLANDS.....	Convention of Commerce of July 11, 1924. Suspended during war; reinstated by exchange of notes Feb. 1 and 5, 1946. Includes Netherlands Antilles and Surinam. GATT effective Jan. 1, 1948.	Exchange of most-favoured-nation treatment. May be terminated on one year's notice.
NICARAGUA.....	Trade Agreement signed Dec. 19, 1946; in force provisionally same date. GATT effective May 28, 1950.	Exchange of most-favoured-nation treatment. Provisional application may be terminated on three months notice.

**Tariff and Trade Arrangements with Non-Commonwealth Countries as at
Nov. 1, 1953—continued**

Country	Agreement	Principal Terms
NORWAY.....	Convention of Commerce and Navigation with United Kingdom of Mar. 18, 1826, applied to Canada. GATT effective July 10, 1948.	Exchange of most-favoured-nation treatment. Convention of May 16, 1913, provides means for separate termination by Dominions on one years notice.
PANAMA.....	Order in Council of July 20, 1935, accepted Article 12 of United Kingdom—Panama Treaty of Commerce of Sept. 25, 1928. Treaty terminated in 1942.	While contractual obligation has expired, Canada and Panama continue to exchange most-favoured-nation treatment.
PARAGUAY.....	Exchange of notes of May 21, 1940; in force June 21, 1940.	Exchange of most-favoured-nation treatment. May be terminated on three months notice.
PERU.....	GATT effective Oct. 8, 1951.	Exchange of most-favoured-nation treatment.
PHILIPPINES.....	No agreement at present.	Canada and Philippines, without contractual obligation, exchange most-favoured-nation treatment (excluding preferences accorded by the Philippines to the United States).
POLAND.....	Convention of Commerce signed July 3, 1935; in force Aug. 15, 1936.	Exchange of most-favoured-nation treatment including scheduled reductions. May be terminated on three months notice.
PORTUGAL, PORTUGUESE ADJACENT ISLANDS AND PORTUGUESE OVERSEAS PROVINCES.	Trade Agreement signed May 28, 1954, provisionally in effect July 1, 1954, definitively in force on ratification Apr. 29, 1955.	Exchange of most-favoured-nation treatment. Remains in effect for two years from ratification and thereafter unless terminated on three months notice.
SPAIN AND SPANISH POSSESSIONS.	Since Aug. 1, 1928, Canada has adhered to the United Kingdom-Spain Treaty of Commerce of Oct. 31, 1922. Trade Agreement signed May 26, 1954, provisionally in effect July 1, 1954, definitively in force on ratification June 30, 1955.	Exchange of most-favoured-nation treatment. May be terminated on six months notice. Supplements and amends United Kingdom-Spanish Treaty of Commerce. Remains in effect for three years from ratification, and thereafter unless terminated on three months notice.
SWEDEN.....	United Kingdom - Sweden Convention of Commerce and Navigation of Mar. 18, 1826, applies to Canada. GATT effective May 1, 1950.	Exchange of most-favoured-nation treatment. Declaration of Nov. 27, 1911, provides means for separate termination by Dominions on one years notice.
SWITZERLAND.....	United Kingdom - Switzerland Treaty of Friendship, Commerce and Reciprocal Establishment of Sept. 6, 1855, applies to Canada. By exchange of notes Liechtenstein included under terms of this Agreement, effective Aug. 2, 1947.	Exchange of most-favoured-nation treatment. Convention of Mar. 30, 1914, provides means for separate termination by the Dominions on one years notice.

**Tariff and Trade Arrangements with Non-Commonwealth Countries as at
Nov. 1, 1958—concluded**

Country	Agreement	Principal Terms
SYRIA.....	Special Arrangement by Order in Council of Nov. 19, 1946.	Canada grants most-favoured-nation tariff rates as long as Syria accords reciprocal treatment.
TUNISIA.....	Franco-Canadian Trade Agreement of 1933 applied to Tunisia (Tunisia is in customs union with France).	Since the creation of Tunisia as an independent State in 1956, Canada has continued to grant most-favoured-nation rates.
TURKEY.....	Exchange of notes signed Mar. 1, 1943; in effect Mar. 15, 1948. GATT effective Oct. 17, 1951.	Exchange of most-favoured-nation treatment. May be terminated on three months notice.
UNION OF SOVIET SOCIALIST REPUBLICS.	Trade Agreement signed Feb. 29, 1956. Ratifications exchanged May 26, 1956.	Exchange of most-favoured-nation treatment and undertaking by U.S.S.R. to purchase determined quantity of Canadian wheat. In force for three years from date of signature and may thereafter be extended by mutual agreement.
UNITED ARAB REPUBLIC....	(See Egypt and Syria)	
UNITED STATES.....*	Trade Agreement signed Nov. 17, 1938; suspended as long as both countries continue to be contracting parties to GATT. GATT effective Jan. 1, 1948.	Most-favoured-nation treatment exchanged under 1938 Agreement is continued under GATT.
URUGUAY.....	Trade Agreement signed Aug. 12, 1936; in force May 15, 1940. Additional Protocol signed Oct. 19, 1953. GATT effective Dec. 16, 1953.	Exchange of most-favoured-nation treatment. May be terminated on six months notice.
VIETNAM.....	Franco-Canadian Trade Agreement of 1933 applied to Vietnam.	Since the creation of Vietnam as an independent State, Canada has continued to accord most-favoured-nation rates.
VENEZUELA.....	<i>Modus vivendi</i> signed and brought into force Oct. 11, 1950.	Exchange of most-favoured-nation treatment. Made for one year subject to annual renewal.
YUGOSLAVIA.....	Trade Agreements Act of June 11, 1923, accepted Article 30 of United Kingdom-Serb-Croat-Slovene Treaty of Commerce and Navigation of May 12, 1927; in force Aug. 9, 1923.	Exchange of most-favoured-nation treatment. May be terminated on one years notice.

CHAPTER XXII.—PUBLIC FINANCE*

CONSPECTUS

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NOTE.—The interpretation of the symbols used in the tables throughout the Year Book will be found facing p. 1 of this volume.

Section 1.—Combined Statistics of Public Finance for All Governments

Combined statistics of public finance for all governments in Canada—federal, provincial and municipal—are presented in this Section. Additional information is provided for each level of government in Sections 2, 3 and 4.

Combined Revenue and Expenditure.—Tables 1 and 2 give details of the federal, provincial and municipal net combined revenue by sources and net combined current and capital expenditure by services, respectively, for 1955 and 1956. This net basis has been prepared by deducting from revenue, and the appropriate expenditure, certain specified amounts such as grants-in-aid and shared-cost contributions from other governments, institutional revenue, certain other sales of commodities and services, and interest, premium, discount and exchange revenue. Amounts provided for debt retirement are excluded to avoid duplication since all expenditure resulting from capital borrowings is included.

Inter-government transfers such as subsidy payments by the Federal Government to the provincial governments are unconditional grants and therefore cannot be offset against any specific expenditure. These are set out separately in Tables 1 and 2 in order to prevent duplication and to provide additive totals. Because of the differing accounting practices of governments and variations in fiscal year-ends, discrepancies appear between the amounts recorded as inter-government transfers in the two tables.

* Revised in the Public Finance and Transportation Division, Dominion Bureau of Statistics.

1.—Combined Revenue of All Governments, 1955 and 1956

NOTE:—Figures are for fiscal years ended nearest Dec. 31.

Source of Revenue	1955				1956			
	Federal	Pro- vincial	Muni- cipal	Total	Federal	Pro- vincial	Muni- cipal	Total
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Taxes—								
Income—								
Corporations.....	1,081,056	53,950	—	1,135,006	1,335,637	62,161	—	1,397,798
Individuals.....	1,288,100	30,208	—	1,318,308	1,525,451	36,359	—	1,561,810
Interest, dividends and other income going abroad.....	66,176	—	—	66,176	76,447	—	—	76,447
General sales.....	801,887	149,444	44,007	995,338	896,351	177,897	50,804	1,125,052
Motor fuel and fuel oil sales.....	—	269,429	238	269,667	—	300,546	299	300,845
Other sales.....	—	42,764	2,049	44,813	—	44,593	2,719	47,312
Excise duties and special excise taxes.....	509,658	—	—	509,658	538,076	—	—	538,076
Customs import duties.....	481,240	—	—	481,240	549,075	—	—	549,075
Real and personal property.....	—	7,375	703,483	710,858	—	8,030	808,746	816,776
Business.....	—	—	64,874	64,874	—	—	51,689	51,689
Succession duties.....	66,607	72,046	—	138,653	79,709	64,555	—	144,264
Other.....	16,771	39,540	17,710	74,021	18,271	38,633	10,357	67,261
Totals, Taxes.....	4,311,495	664,756	832,361	5,808,612	5,019,017	732,774	924,614	6,676,405
Privileges, Licences and Permits—								
Liquor control and regulation....	10	32,710	—	32,720	12	33,343	—	33,355
Motor vehicle.....	—	114,264	—	114,264	—	127,503	—	127,503
Natural resources.....	3,973	256,905	—	260,878	4,667	287,905	—	292,572
Other.....	14,821	18,256	18,198	51,275	15,967	20,086	20,268	56,321
Totals, Privileges, Licences and Permits.....	18,804	422,135	18,198	459,137	20,646	468,837	20,268	509,751
Sales and services.....	42,835	24,196	—	67,031	45,847	27,083	—	72,930
Receipts from Government Enter- prises—								
Liquor boards and commissions..	—	139,167	—	139,167	—	153,801	—	153,801
Other.....	60,473	3,458	33,468	97,399	124,701	4,314	30,395	159,410
In lieu of municipal taxes from federal and provincial govern- ment enterprises.....	—	—	2,905	2,905	—	—	4,509	4,509
Totals, Receipts from Govern- ment Enterprises.....	60,473	142,625	36,373	239,471	124,701	158,115	34,904	317,720
Other revenue.....	132,177	6,228	73,560	261,965	201,562	7,370	77,785	286,717
Non-revenue and surplus receipts...	51,941	2,226	—	54,167	29,405	2,387	—	31,792
Totals, Net General Revenue excluding Inter-govern- ment Transfers.....	4,667,725	1,262,166	960,492	6,890,383	5,441,178	1,396,566	1,057,571	7,895,315
Inter-government Transfers—								
Tax rentals.....	—	320,310	—	320,310	—	366,328	—	366,328
Share of income tax on power utilities.....	—	7,947	—	7,947	—	6,613	—	6,613
Subsidies.....	—	23,421	38,745	62,166	—	22,810	41,127	63,937
Special payments.....	—	244	142	386	—	240	940	1,180
Grants in lieu of municipal taxes on federal and provincial pro- perty.....	—	—	6,697	6,697	—	—	10,358	10,358
Totals, Net General Revenue.	4,667,725	1,614,088	1,006,076	7,287,889	5,441,178	1,792,537	1,109,996	8,343,731

2.—Combined Expenditure of All Governments, 1955 and 1956

NOTE:—Figures are for fiscal years ended nearest Dec. 31.

Function	1955				1956			
	Federal	Provincial	Municipal	Total	Federal	Provincial	Municipal	Total
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Defence services.....	1,643,260	—	—	1,643,260	1,685,823	—	—	1,685,823
Veterans pensions and other benefits	244,948	—	—	244,948	261,397	—	—	261,397
Health, hospital care and other.....	57,387	246,902	61,784	366,073	62,131	261,539	70,213	393,883
Social Welfare—								
Aid to aged persons.....	387,229 ²	42,801	..	..	399,506 ²	47,180	..	..
Aid to unemployed and unemployedables.....	5,836	22,057	..	..	15,081	24,446	..	..
Family allowances.....	385,068	—	—	385,068	400,245	—	—	400,245
National employment services...	62,113	—	—	62,113	66,911	—	—	66,911
Other.....	13,130	69,072	..	..	14,496	71,708	..	..
Totals, Social Welfare.....	853,376	133,931	33,422	1,020,729	896,239	143,334	33,898	1,073,471
Education.....	25,496	332,938	428,790	787,224	38,453	362,248	439,788	840,489
Transportation and Communications—								
Highways, roads and bridges....	27,836	443,434	233,099	704,371	52,414	556,831	225,700	834,945
Other.....	146,171	4,554	—	150,725	163,953	4,651	—	168,604
Natural resources and primary industries.....	158,759	122,149	—	280,908	155,827	132,577	—	288,404
Debt charges excluding debt retirement.....	436,414	54,817	57,840	549,071	471,274	55,308	105,814 ¹	632,396
Payments to own government enterprises.....	76,808	10,108	6,571	93,487	101,824	7,928	10,455	120,207
General government.....	208,135	64,921	93,905	366,961	316,198	69,829	100,817	486,844
Protection of persons and property...	51,676	82,387	148,591	282,654	60,665	91,593	156,251	308,509
Sanitation and waste removal.....	—	—	108,729	108,729	—	—	117,187	117,187
International co-operation and assistance.....	122,892	—	—	122,892	168,571	—	—	168,571
Other.....	261,347	36,140	98,856	396,343	277,410	39,896	92,870	410,176
Non-expend and surplus payments	339	6,414	—	6,753	50,288	6,508	—	56,796
Totals, Net General Expenditure excluding Inter-government Transfers.....	1,314,846	1,538,695	1,271,587	7,125,128	1,762,467	1,732,242	1,352,993	7,847,702
Inter-government Transfers—								
Tax rentals.....	320,166	—	—	320,166	366,696	—	—	366,696
Share of income tax on power utilities.....	7,948	—	—	7,948	6,614	—	—	6,614
Subsidies.....	23,432	35,834	—	59,266	22,811	40,024	—	62,835
Special payments.....	800	—	246	1,046	1,078	712	246	2,036
Grants in lieu of municipal taxes on federal and provincial property.....	7,242	736	—	7,978	9,709	840	—	10,549
Totals, Net General Expenditure.....	1,674,424	1,575,265	1,271,833	7,521,522	5,169,375	1,773,818	1,353,239	8,296,432

¹ Excludes capital expenditures out of capital fund for the Province of Quebec.² Includes pensions paid from Old Age Security Fund.³ Includes debt retirement for municipalities in the Province of Quebec.

Consolidated Debt.—Table 3 gives details of combined debt of all governments for 1955 and 1956 with the aggregate debt of the federal, provincial and municipal governments; the inter-government debt is deducted to arrive at a consolidated government figure.

3.—Consolidated Debt of All Governments, 1955 and 1953

Note.—Figures are for fiscal years ended nearest Dec. 31.

Item	1955					1956						
	Federal	Pro- vincial	Muni- cipal	Total	Deduct Inter- government Debt	Consoli- dated Govern- ment Debt	Federal	Pro- vincial	Muni- cipal	Total	Deduct Inter- government Debt	Consoli- dated Govern- ment Debt
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Direct Debt—												
Funded debt.....	13,307,570	2,714,427	2,408,427	18,430,424	188,887	18,241,537	12,743,415	2,939,566	2,645,506	18,328,577	220,984	18,107,593
Less sinking funds.....	210,847	470,456	92,920	774,223	—	774,223	210,805	550,223	98,403	859,431	—	859,431
Net funded debt.....	13,096,723	2,243,971	2,315,507	17,656,201	188,887	17,467,314	12,532,610	2,389,343	2,547,193	17,469,146	220,984	17,248,162
Treasury bills ²	2,100,009	14,446	—	2,114,446	—	2,114,446	1,625,000	29,098	—	1,654,098	—	1,654,098
Savings deposits.....	36,164	2,068	—	38,232	—	38,232	35,918	3,314	—	38,760	—	38,760
Temporary loans.....	—	17,578	127,731	145,309	—	145,309	—	20,659	167,360	188,019	—	188,019
Other direct liabilities.....	3,323,427	240,666	203,935	3,768,028	38,246	3,729,782	3,579,308	272,085	326,966	4,178,389	38,525	4,139,864
Totals, Direct Debt (less sinking funds).....	18,556,314	2,518,729	2,617,173	23,722,216	227,133	23,495,083	17,772,836	2,714,027	3,041,519	23,528,412	259,509	23,268,903
Indirect Debt—												
Guaranteed bonds.....	792,553	1,589,522	14,969	2,397,044	81,305	2,315,739	792,543	1,840,108	14,315	2,646,966	95,809	2,551,087
Less sinking funds.....	—	16,235	378	16,613	1,730	14,883	—	24,664	391	25,055	1,827	23,228
Net guaranteed bonds, Loans under the Municipal Improve- ment Assistance Act, 1938.....	792,553	1,573,287	14,591	2,380,431	79,575	2,300,856	792,543	1,815,444	13,924	2,621,911	94,072	2,527,839
Guaranteed bank loans and other indi- rect liabilities.....	—	2,867	—	2,867	2,867	—	—	2,609	—	2,609	2,609	—
Totals, Indirect Debt (less sinking funds).....	792,553	1,576,154	14,591	2,389,297	84,169	2,315,456	792,543	1,818,057	14,315	2,649,520	98,436	2,547,086
Grand Totals.....	20,069,652	4,175,059	2,662,096	26,895,207	311,502	26,583,705	19,818,806	4,666,586	3,055,701	27,541,403	358,069	27,183,314

¹ Includes treasury bills having a term of two or more years. ² Includes treasury bills having a term of less than two years. ³ Includes treasury notes.
⁴ Excludes contingent liability in respect of Federal Government guarantee of deposits maintained by chartered banks in the Bank of Canada and miscellaneous guarantees the amount of which were not finally determined or were indeterminate at the close of the fiscal year.

Section 2.—Federal Public Finance

Subsection 1 of this Section introduces new tables dealing with statistics of the Federal Government in accordance, as far as possible, with the classifications, concepts and definitions used in the preparation of provincial and municipal finance statistics. These tables differ from the information presented in Subsection 2 in that the latter has been extracted directly from the *Public Accounts*. Detailed reports published by the Dominion Bureau of Statistics provide reconciliations of revenue, expenditures and debt as set out in Subsections 1 and 2. The *Public Accounts* presentation is retained for continuity, and also because there is interest in and use for information on this basis.

Historical Data.—A sketch of public finance from the French régime to the outbreak of World War I appears in the 1941 Year Book, pp. 742-743. Detailed sketches *re* tax changes from 1914 to 1938 will be found in issues of the Year Book beginning with the 1926 edition. An outline of the financing of Canada's war effort, including the more important changes in taxation during the war years from 1939 to 1945, is given in the 1945 Year Book, pp. 918-923. The postwar financial policy of the Government of Canada is outlined in the 1954 Year Book at pp. 1061-1064, and tax changes proposed in subsequent Budgets are outlined briefly in the 1955, 1956 and 1957-58 Year Books.

The 1958-59 Budget.—The Budget presented June 17, 1958, to the first session of the 24th Parliament contained no major changes in tax rates. It provided for numerous minor changes in the Income Tax Act. Exemptions for medical expenses and for dependants and wives were amended, as were deductible expenses of oil and gas producers. The allowable deductions for charitable contributions made by corporations were raised from 5 p.c. to 10 p.c. of income. Legislation was forecast and has since been introduced adding to gift-tax exemptions the provision for one tax-free gift from one spouse to another of ownership of the home they occupy, or from parent to child of a farm, up to the value of \$10,000. Refunds of gift tax paid within three years of death are allowed in the full amount by which the gift tax exceeds the succession duty on the gift. Depletion allowance claims in respect of dividends from non-resident companies will not be allowed after 1958.

The Estate Tax Act was passed by Parliament in 1958 and applies to the estates of persons dying on or after Jan. 1, 1959. A brief description of the Act appears in Subsection 3 of this Section, p. 1070.

Subsection 1.—DBS Statistics of Federal Public Finance

Revenue and Expenditure.—Tables 4 and 5 show details of net general revenue and net general expenditure of the Federal Government for the years ended Mar. 31, 1956 and 1957. Revenue items are classified by source and expenditure items by function. Table 6 gives details of amounts paid by the Federal Government to provincial governments and municipal corporations in the year ended Mar. 31, 1957.

4.—Details of Net General Revenue of the Federal Government, Years Ended Mar. 31, 1956 and 1957

Source	1956	1957	Source	1956	1957
	\$'000	\$'000		\$'000	\$'000
Taxes—			Privileges, Licences and Permits—		
Income—			Natural resources.....	3,973	4,667
Corporations ¹	1,081,056	1,335,637	Other.....	14,831	15,979
Individuals.....	1,238,100	1,525,451	Sales and services other than institutional.....	42,835	45,847
Interest, dividends and other income going abroad.....	66,176	76,447	Fines and penalties.....	847	866
General sales ¹	801,887	896,351	Exchange fund profits.....	10,806	17,420
Excise Duties and Special Excise Taxes—			Receipts from government enterprises.....	60,473	124,701
Alcoholic beverages.....	141,917	153,405	Bullion and coinage.....	3,291	4,134
Tobacco.....	236,839	252,887	Postal service.....	158,569	167,880
Automobiles.....	76,194	79,693	Other revenue.....	8,664	11,262
Other.....	54,708	52,091	Non-revenue and surplus receipts.....	51,941	29,405
Customs import duties.....	481,240	549,075			
Succession duties.....	66,607	79,709			
Other.....	16,771	18,271			
Totals, Taxes.....	4,311,495	5,019,017	Totals, Net General Revenue.....	4,667,725	5,441,178

¹ Includes Old Age Security Taxes.

5.—Details of Net General Expenditure of the Federal Government, Years Ended Mar. 31, 1956 and 1957

Function	1956	1957	Function	1956	1957
	\$'000	\$'000		\$'000	\$'000
Defence services.....	1,644,060	1,686,748	Education—		
Veterans' pensions and other benefits.....	244,948	261,397	Indian and Eskimo schools..	14,692	16,333
General Government—			Universities, colleges and other schools.....	9,597	20,458
Executive and administrative.....	193,968	297,353	Other.....	1,207	1,662
Legislative.....	7,734	8,152	Totals, Education.....	25,496	38,453
Research, planning and statistics.....	6,433	10,693	Natural Resources and Primary Industries—		
Totals, General Government.....	208,135	316,198	Fish and game.....	13,610	14,919
Protection of Persons and Property—			Forests.....	6,682	7,843
Law enforcement.....	5,978	6,364	Lands, settlement and agriculture.....	100,079	90,500
Corrections.....	10,046	11,369	Minerals and mines.....	26,821	27,025
Police protection.....	30,907	37,216	Water resources.....	1,254	1,373
Other.....	4,745	5,716	Other.....	10,313	14,167
Totals, Protection of Persons and Property.....	51,676	60,665	Totals, Natural Resources and Primary Industries.....	158,759	155,827
Transportation—			Trade and industrial development.....	17,648	19,410
Air.....	51,355	43,220	National capital area planning and development.....	5,914	4,824
Road.....	27,838	52,414	Loss on foreign exchange.....	-1,771	1,382
Rail.....	12,665	12,699	Debt Charges (excluding debt retirement)—		
Water.....	77,276	88,192	Interest.....	416,497	457,322
Other.....	1,714	2,039	Other.....	21,688	13,952
Totals, Transportation.....	170,848	198,564	Totals, Debt Charges (excluding debt retirement).....	438,185	471,274
Communications—telephone, telegraph and wireless.....	3,161	17,803	Payments to government enterprises.....	76,808	101,824
Health—			Payments to Provincial Governments—		
General.....	2,398	2,495	Tax rentals.....	320,166	366,696
Public.....	26,664	28,892	Share of income tax on power utilities.....	7,948	6,614
Medical, dental and allied services.....	4,316	4,824	Subsidies.....	23,422	22,811
Hospital care.....	24,009	25,920	Grants to Municipal Governments in lieu of taxes.....	7,226	9,691
Totals, Health.....	57,387	62,131	Total, Payments to Provincial and Municipal Governments ²	358,762	405,812
Social Welfare—			Other Expenditure—		
Aid to aged persons ¹	387,229	399,506	Citizenship and immigration	10,476	21,431
Aid to blind persons.....	2,977	3,018	External affairs.....	12,056	13,247
Aid to unemployed employables and unemployables.....	5,836	15,081	International co-operation and assistance.....	148,208	168,571
Family allowances.....	385,068	400,245	Housing research and slum clearance.....	510	858
Labour.....	1,788	2,131	Civil defence.....	2,436	3,638
National employment services.....	62,113	66,911	Postal service.....	148,288	162,049
Other.....	8,365	9,347	Royal Canadian Mint.....	1,041	1,193
Totals, Social Welfare.....	853,376	896,239	Other.....	19,695	32,272
Recreational and Cultural Services—			Totals, Other Expenditure.....	342,710	403,259
Archives, art galleries, museums and libraries.....	2,158	1,545	Non-expense and Surplus ³ Payments.....	339	50,288 ³
Parks.....	6,131	7,150	Totals, Net General Expenditure.....	4,674,424	5,169,375
Other.....	9,694	8,582			
Totals, Recreational and Cultural Services.....	17,983	17,277			

¹ Includes pensions paid from the Old Age Security Fund.² Unconditional payments; grants for specific purposes are classified by function.³ Includes provision for reserve for possible losses on ultimate realization of active assets amounting to \$50,000,000.

6.—Payments by the Federal Government to Provincial Governments and Municipal Corporations, Year Ended Mar. 31, 1957

Payee and Purpose	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Canada
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Provincial Governments											
Tax rentals.....	13,805	3,073	22,333	17,807	—	160,558	27,889	27,432	37,311	55,730	365,938
Share of income tax on power utilities.....	214	36	238	228	1,186	1,429	51	50	1,767	1,415	6,614
Subsidies.....	3,819	657	2,057	1,679	3,242	3,641	2,031	2,080	2,274	1,231	22,761
Grants-in-Aid and Shared-Cost Contributions—											
Trans-Canada Highway.....	1,126	414	951	3,252	—	4,855	3,124	2,653	1,046	6,455	24,806
Other roads.....	—	—	—	700	445	329	—	241	73	225	2,013
Other transportation.....	45	20	—	—	—	—	—	25	—	—	90
General Health Grants—											
Hospital construction.....	34	23	236	681	3,650	3,769	887	258	862	974	11,354
General public health.....	247	92	422	231	1,019	1,986	336	417	499	742	6,011
Tuberculosis control.....	271	41	236	170	1,690	908	213	220	222	286	2,257
Mental health.....	169	71	298	275	1,816	1,920	363	398	432	599	6,342
Cancer control.....	53	11	180	129	987	971	220	205	216	220	2,244
Other general health grants.....	206	62	343	417	1,108	936	664	583	321	336	4,984
Other health.....	46	—	4	3	21	116	12	7	6	31	246
Old age assistance.....	1,015	98	1,021	1,272	7,107	4,659	1,059	1,154	1,211	1,665	20,261
Other social welfare.....	2,701	207	552	576	4,639	2,475	1,154	1,046	437	4,306	18,092
Vocational training.....	140	33	417	248	646	1,073	251	328	525	386	4,047
Other education.....	266	—	3	—	2	161	11	12	3	103	621
Fish and game.....	60	—	—	—	64	89	20	21	—	—	260
Forests.....	—	15	61	664	—	368	30	28	21	479	1,669
Land—settlement and agriculture.....	—	38	62	53	350	63	108	30	66	38	938
Other natural resources.....	—	—	—	—	—	393	28	—	—	367	788
Other grants-in-aid, etc.....	58	—	30	21	—	375	50	91	129	197	951
Totals, Paid to Provincial Governments	24,411	4,891	29,447	28,456	27,972	191,074	38,482	37,285	48,352	75,917	506,287
Municipal Corporations											
Grants in lieu of taxes on federal property.....	—	58	1,194	494	1,170	4,762	788	284	330	596	9,676
Special grants.....	—	—	—	925	—	247	—	—	—	—	1,172
Grants-in-Aid and Shared-Cost Contributions—											
Transportation.....	—	—	5	31	214	426	53	68	351	49	1,197
Health.....	—	—	—	—	—	275	213	—	77	—	565
Schools operated by local authorities.....	—	—	—	—	—	74	60	—	461	60	655
Other.....	—	—	—	—	—	142	—	66	—	17	225
Totals, Paid to Municipal Corporations	—	58	1,199	1,450	1,384	5,926	1,114	418	1,219	722	13,490
Grand Totals	24,411	4,949	30,646	29,906	29,356	197,000	39,596	37,703	49,571	76,639	519,777

Debt.—In Table 7, direct debt represents total liabilities less sinking funds and indirect debt consists of guarantees of direct debt of other authorities by the Federal Government. Table 8 gives the gross bonded debt of the Federal Government and the average interest rates and terms of issue as at Mar. 31, 1954-57, together with place of payment.

7.—Direct and Indirect Debt (less Sinking Funds) of the Federal Government as at Mar. 31, 1956 and 1957

Nature of Debt	1956	1957
	\$'000	\$'000
Direct Debt		
Funded Debt—		
Bonded debt.....	13,307,570	12,743,415
Less sinking funds.....	210,847	210,805
Net funded debt.....	13,096,723	12,532,610
Short-term treasury bills.....	2,100,000	1,625,000
Savings deposits and certificates.....	36,164	35,918
Accounts and other payables.....	865,862	898,143
Annuity, insurance and pension accounts.....	2,135,615	2,427,159
Other liabilities.....	271,950	254,006
Totals, Direct Debt (less Sinking Funds)	18,556,314	17,772,836
Indirect Debt		
Guaranteed bonds or debentures.....	792,553	792,543
Less sinking funds.....	—	—
Net guaranteed bonds or debentures.....	792,553	792,543
Guaranteed bank loans.....	130,112	101,250
Guaranteed insured loans under National Housing Act, 1954.....	529,000	1,033,000
Guarantees under Export Credits Insurance Act.....	49,984	66,112
Other guarantees.....	2,089	3,065
Totals, Indirect Debt (less Sinking Funds)²	1,503,738	2,045,970
Totals, Direct and Indirect Debt (less Sinking Funds)	20,060,052	19,818,806
	\$	\$
Direct debt (less sinking funds) per capita ¹	1,153.93	1,071.36
Indirect debt (less sinking funds) per capita ³	93.51	123.33

¹ Having a term of from two to nine months.

² Excludes deposits of chartered banks in Bank of Canada.

³ Based on estimated population as at June 1, 1957 (see p. 163).

8.—Gross Bonded Debt of the Federal Government, Average Interest Rate and Term of Issue, and Place of Payment as at Mar. 31, 1954-57

Item	1954	1955	1956	1957
Bonded debt.....	\$'000 13,176,168	12,906,442	13,307,570	12,743,415
Average interest rate.....	p.c. 2.95	2.93	2.92	2.96
Average term of issue.....	yrs. 14.58	14.43	14.32	15.14
Place of Payment—				
Canada.....	\$'000 12,784,058	12,506,631	12,955,759	12,391,604
New York.....	" 341,040	348,000	300,000	300,000
London (England).....	" 51,070	51,811	51,811	51,811

Subsection 2.—Public Accounts Statistics of Federal Public Finance

Revenue and Expenditure.—Tables 9 and 10 show details of revenue and expenditure of the Federal Government for the fiscal years ended Mar. 31, 1956-58, as presented in the *Public Accounts*.

In the fiscal year ended Mar. 31, 1958, Federal Government revenue amounted to \$5,049,000,000 compared with \$5,107,000,000 in the previous year, a decrease of \$58,000,000. During the same period expenditure increased by \$238,000,000 from

\$4,849,000,000 to \$5,087,000,000, and the excess of expenditure over revenue for the fiscal year was therefore \$38,000,000. Tax revenue and non-tax revenue in 1958 decreased \$25,000,000 and \$33,000,000, respectively, from the previous fiscal year.

9.—Revenue of the Federal Government, Years Ended Mar. 31, 1956-58

SOURCE: *Public Accounts*

Revenue	1956	1957	1958
	\$	\$	\$
Tax Revenue—			
Customs import duties.....	481,239,668	549,074,860	498,068,539
Excise duties.....	249,383,313	271,443,661	300,132,512
Income tax.....	2,279,503,232	2,745,199,494	2,798,929,195
Personal ¹	1,185,599,795	1,400,451,444	1,499,788,390
Corporation ¹	1,087,727,818	1,268,300,916	1,284,806,725
On interest, dividends, rents, and royalties going abroad.....	66,175,689	76,447,155	64,334,080
Sales tax (net) ¹	641,510,469	717,080,563	703,169,768
Succession duties.....	66,607,026	79,709,197	71,607,758
Other taxes.....	277,477,462	285,423,996	250,919,610
Totals, Tax Revenue.....	3,995,721,170	4,647,931,771	4,622,827,382
Non-tax Revenue—			
Post Office.....	137,414,587	145,773,393	152,860,476
Return on investments ²	149,316,037	206,655,544	169,423,960
Bullion and coinage.....	3,246,887	4,089,662	5,011,280
Other.....	114,347,958	102,090,510	98,665,181
Totals, Non-tax Revenue.....	404,325,469	458,609,109	425,960,897
Totals, Revenue.....	4,400,046,639	5,106,540,880	5,048,788,279

¹ Excludes tax credited to the Old Age Security Fund. the Bank of Canada.

² Includes interest on investments and profits of

10.—Expenditure of the Federal Government, Years Ended Mar. 31, 1956-58

SOURCE: *Public Accounts*

Expenditure	1956	1957	1958
	\$	\$	\$
Agriculture.....	88,179,697	84,651,787	94,661,200
Freight assistance on western feed grains.....	15,999,464	17,499,984	17,499,693
Other.....	72,180,233	67,151,853	77,161,507
Atomic Energy Control Board.....	18,957,359	21,882,226	21,580,708
Auditor General's Office.....	651,903	690,331	800,057
Canadian Broadcasting Corporation.....	31,155,977	39,266,161	42,974,021
Chief Electoral Officer.....	445,106	205,722	13,626,116
Citizenship and Immigration.....	32,274,864	44,517,150	52,421,729
Civil Service Commission.....	2,428,238	2,731,240	3,181,900
Defence Production.....	16,075,562	20,469,410	14,994,305
Capital assistance to defence industry.....	6,491,487	9,838,292	4,758,526
Other.....	9,584,185	10,631,118	10,235,779
External Affairs.....	44,909,176	60,227,824	60,209,169
Finance.....	931,271,597	1,152,758,655	1,187,361,634
Public Debt Charges—			
Interest on public debt.....	492,621,067	520,189,398	559,207,260
Annual amortization of bond discounts and commissions.....	19,980,940	12,308,158	26,445,454
Servicing of public debt.....	596,261	555,866	549,945
Cost of loan flotation.....	1,170,467	1,088,036	1,220,637
Miscellaneous.....	—	—	28,944
Totals, Public Debt Charges.....	514,311,735	534,141,458	567,452,220

10.—Expenditure of the Federal Government, Years Ended Mar. 31, 1956-58—concluded

Expenditure	1956	1957	1958
	\$	\$	\$
Finance—concluded			
Provincial subsidies and tax rental payments.....	350,943,032	395,372,437	332,636,661
Government contribution to Civil Service Superannuation Account.....	31,526,243	72,359,995	73,083,180
Reserve for possible losses on realization of active assets.....	—	50,000,000	—
Grant to the Canada Council.....	—	—	100,000,000
Other.....	34,489,632	100,834,765	59,189,667
Fisheries.....	12,411,672	13,798,710	16,395,093
Governor General and Lieutenant-Governors.....	400,395	412,712	418,315
Insurance.....	493,049	543,307	1,178,311
Justice, including Penitentiaries.....	17,317,471	19,065,569	19,929,268
Labour.....	69,577,960	75,854,286	81,694,582
Unemployment Insurance Act, administration and Government contribution.....	60,633,085	68,357,949	70,300,092
Other.....	9,044,875	9,496,337	11,394,490
Legislation.....	6,820,670	7,176,643	6,845,985
Mines and Technical Surveys.....	38,227,790	35,926,412	36,134,969
National Defence.....	1,750,112,163	1,759,425,955	1,668,462,765
Mutual Aid to NATO countries.....	174,966,318	133,552,637	118,464,310
Other.....	1,576,145,846	1,626,873,318	1,549,998,455
National Film Board.....	4,067,393	4,960,143	4,019,466
National Health and Welfare.....	537,912,259	561,889,067	662,730,216
General health grants.....	33,523,854	36,880,147	34,606,069
Family allowances.....	382,535,026	397,617,840	437,886,560
Old age assistance, blind persons and disabled persons allowances ¹	29,501,735	30,117,187	33,737,463
Deficit Old Age Security Fund.....	63,251,655	56,012,857	103,907,396
Other ²	29,094,989	41,461,036	46,532,223
National Research Council.....	16,077,844	19,019,561	21,610,139
National Revenue.....	56,070,232	61,823,868	67,708,839
Northern Affairs and National Resources.....	24,615,905	36,970,235	49,071,273
Post Office.....	127,421,739	139,992,921	153,319,783
Privy Council including Prime Minister's Office.....	3,872,993	3,912,157	3,913,998
Public Archives.....	486,190	577,163	652,850
Public Printing and Stationery.....	2,213,716	3,200,656	3,275,332
Public Works.....	142,101,418	165,338,569	205,992,445
Trans-Canada Highway contributions.....	16,100,554	89,137,664	62,604,941
Other.....	186,000,864	129,198,905	143,387,504
Royal Canadian Mounted Police.....	36,557,371	43,449,799	47,355,538
Secretary of State.....	2,968,421	3,491,456	3,975,562
Trade and Commerce.....	36,545,671	55,389,457	56,938,946
Transport.....	132,041,121	158,162,525	206,734,088
Veterans Affairs.....	248,459,754	251,457,621	277,242,409
Grand Totals, Expenditure.....	4,433,127,636	4,849,035,298	5,087,411,011

¹ Pensions under the Old Age Security Act 1951 (effective January 1952) are paid out of the Old Age Security Fund account and are not recorded under departmental expenditure. ² Includes civil defence.

Balance Sheets.—Table 11 shows the balance sheets of the Federal Government as they appear in the *Public Accounts* for the years ended Mar. 31, 1956-58.

11.—Balance Sheets of the Federal Government as at Mar. 31, 1956-58

SOURCE: *Public Accounts*

Item	1956	1957	1958
	\$	\$	\$
Assets			
Current Assets—			
Cash in current and special deposits.....	570,819,850	472,199,177	307,471,025
Cash in hands of collectors and in transit.....	151,925,147	132,015,372	160,542,151
Departmental Working Capital Advances and Revolving Funds—			
Defence Production Revolving Fund.....	58,417,158	56,351,866	54,575,967
Other.....	76,625,372	67,587,377	75,533,413

11.—Balance Sheets of the Federal Government as at Mar. 31, 1956-58—continued

Item	1956	1957	1958
	\$	\$	\$
Assets—concluded			
Current Assets—concluded			
Other Current Assets—			
Moneys received after Mar. 31 but applicable to the current year.....	11,676,345	14,649,402	18,862,561
Securities investment account.....	721,577,658	204,253,602	79,846,332
	1,591,041,530	947,056,796	696,831,449
Advances to the Exchange Fund Account.....	1,950,000,000	2,021,000,000	1,975,000,000
Sinking fund and other investments held for retirement of unmatured debt.....	210,846,784	210,805,017	211,741,222
Loans to and Investments in Crown Corporations—			
Canadian National Railways.....	1,104,676,348	1,276,760,593	1,266,085,046
Central Mortgage and Housing Corporation—capital and loans.....	564,551,193	560,508,002	668,017,346
National Harbours Board.....	107,088,959	114,267,198	125,430,926
Miscellaneous.....	231,193,431	298,969,889	494,733,231
	2,007,509,931	2,250,505,682	2,554,266,549
Loans to National Governments.....	1,549,804,685	1,478,559,528	1,487,984,714
Other Loans and Investments—			
Canada's Subscription to Capital of—			*
International Monetary Fund.....	299,757,439	290,954,972	295,942,107
International Bank for Reconstruction and Development..	70,864,349	70,864,349	70,864,349
Working capital advances to international organizations.....	1,652,711	2,479,700	2,231,679
Provincial governments.....	73,067,946	69,645,873	70,827,737
Soldier Settlement and Veterans' Land Act loans (less reserve for conditional benefits).....	161,051,804	157,193,063	153,973,244
Miscellaneous.....	40,791,450	63,950,589	68,950,873
	647,185,699	655,038,546	662,789,989
Province Debt Accounts.....	—	100,124	—
Securities held in trust.....	—	—	22,846,036
Deferred Charges—			
Unamortized loan flotation costs.....	56,874,003	63,920,033	77,535,209
Unamortized portion of actuarial deficiency in the super-annuation account.....	189,000,000	139,000,000	139,000,000
	245,874,003	202,920,033	216,535,209
Suspense Accounts—			
Temporary loan to Old Age Security Fund.....	50,012,857	1,506,233	—
Miscellaneous.....	2,465	7,926,134	2,465
	50,015,322	9,432,367	2,465
Capital Assets.....	1	1	1
Inactive Loans and Investments.....	87,969,925	89,455,528	90,854,389
Totals, Assets.....	8,340,247,880	7,864,923,622	7,918,652,023
Less reserve for losses on realization of assets.....	496,384,065	546,384,065	546,384,065
Net Assets.....	7,843,863,815	7,318,539,557	7,372,267,958
Net Debt.....	11,280,368,964	11,007,651,158	11,046,273,890
	19,124,232,779	18,326,190,715	18,418,541,848
Liabilities			
Current and Demand Liabilities—			
Outstanding treasury cheques.....	293,243,156	314,019,206	232,906,214
Accounts payable.....	202,971,491	232,859,952	201,369,937
Non-interest-bearing notes payable on demand.....	223,828,500	211,828,500	203,828,500

11.—Balance Sheets of the Federal Government as at Mar. 31, 1956-58—concluded

Item	1956	1957	1958
Liabilities—concluded	\$	\$	\$
Current and Demand Liabilities—concluded			
Matured debt outstanding.....	31,876,201	35,989,816	23,488,803
Interest due and outstanding.....	58,231,988	59,158,908	57,081,245
Interest accrued.....	129,765,259	119,958,733	129,053,772
Other current liabilities.....	29,547,890	29,093,529	27,144,833
	969,464,485	1,002,908,644	874,873,304
Deposit and Trust Accounts.....	166,342,688	167,575,354	187,018,117
Annuity, Insurance and Pension Accounts—			
Government annuities.....	930,221,101	989,285,939	1,047,641,226
Permanent services pension account.....	346,373,948	426,305,539	513,868,559
Superannuation account.....	804,236,283	918,943,987	1,045,760,439
Miscellaneous.....	104,784,090	92,623,457	105,542,600
	2,185,615,422	2,427,158,922	2,712,812,824
Undisbursed Balances of Appropriations to Special Accounts—			
National Defence equipment account (Sect. 3, Defence Appropriation Act, 1950).....	281,933,743	236,075,184	211,739,028
Miscellaneous.....	61,739,713	76,481,065	73,628,240
	343,673,456	312,556,249	285,367,268
Suspense Accounts.....	51,566,525	47,576,093	113,363,182
Unmatured Debt—			
Bonds—			
Payable in Canada.....	12,955,758,750	12,391,604,000	12,368,295,700
Payable in London.....	51,811,453	51,811,453	51,811,453
Payable in New York.....	300,000,000	300,000,000	300,000,000
Treasury Bills and Notes—			
Payable in Canada.....	2,100,000,000	1,625,000,000	1,525,000,000
	15,407,570,203	14,368,415,453	14,245,107,153
Totals, Liabilities	19,124,232,779	18,326,190,715	18,418,541,848

Guaranteed Debt.—In addition to the direct debt of the Federal Government already dealt with, there are large indirect obligations arising mainly out of the guarantee of securities by the Federal Government of the railway lines that now form the Canadian National Railways and the subsequent extensions thereof. Since 1932, guarantees of certain bank loans have been made under the various Relief Acts, the National Housing Act, the Farm Improvement Loans Act, and the Veterans Business and Professional Loans Act. When the Bank of Canada commenced business on Mar. 11, 1935, the guarantee of the deposit required to be maintained in the Bank of Canada by every chartered bank came into force. This guarantee must be implemented “in the event of the property and assets of the Bank being insufficient to pay its liabilities and/or if the Bank suspends payment of any of its liabilities”.

12.—Guaranteed Debt of the Government of Canada—Amounts Held by the Public as at Mar. 31, 1958

Item	Amount of Guarantee Authorized	Amount Outstanding in the Hands of the Public as at Mar. 31, 1958 ¹
	\$	\$
Railway Securities Guaranteed as to Principal and Interest—		
Canadian Northern Ry. Co. 3½ per cent deb. stock due 1958, £1,622,586/19/9...	7,896,590	5,500,208
Canadian National Ry. Co. 3 per cent bonds due 1959.....	35,000,000	35,000,000
Canadian Northern Alberta Ry. Co. 3½ per cent deb. stock due 1960, £647,260/5/6.....	3,150,000	316,856
Canadian Northern Ontario Ry. Co. 3½ per cent deb. stock due 1961, £7,350,000/0/0.....	35,770,000	2,069,805
Grand Trunk Pacific Ry. Co. 3 per cent bonds due 1962, £14,000,000/0/0.....	68,040,000	26,465,130
Canadian Northern Alberta Ry. Co. 3½ per cent deb. stock due 1962, £733,561/12/10.....	3,570,000	—
Grand Trunk Pacific Ry. Co. 4 per cent bonds due 1962, £3,280,000/0/0.....	15,940,800	7,999,074
Canadian National Ry. Co. 2½ per cent bonds due 1963.....	250,000,000	250,000,000
Canadian National Ry. Co. 3 per cent bonds due 1966.....	35,000,000	35,000,000
Canadian National Ry. Co. 2½ per cent bonds due 1967.....	50,000,000	50,000,000
Canadian National Ry. Co. 2½ per cent bonds due 1969.....	70,000,000	70,000,000
Canadian National Ry. Co. 2½ per cent bonds due 1971.....	40,000,000	40,000,000
Canadian National Ry. Co. 3½ per cent bonds due 1974.....	200,000,000	200,000,000
Canadian National Ry. Co. 2½ per cent bonds due 1975.....	6,000,000	6,000,000
Canadian National Ry. Co. 4 per cent bonds due 1981.....	300,000,000	300,000,000 ²
Railway Securities Guaranteed as to Interest Only—		
Grand Trunk Ry. acquisition guarantees—		
Grand Trunk 5 per cent perp. deb. stock £4,270,375/0/0.....	20,782,492	51,190
Grand Trunk 4 per cent perp. deb. stock £24,624,455/0/0.....	119,839,014	5,054
Other Guarantees—		
Deposits maintained by chartered banks in Bank of Canada.....	Unstated	579,472,661
Loans made by approved lending institutions under National Housing Acts prior to 1954 Act.....	Unstated	Indeterminate
Loans made by lenders under Part IV of the National Housing Act, 1954, for home extensions and improvements.....	10,000,000	3,443,083 ²
Insured loans made by approved lenders under the National Housing Act, 1954.....	4,000,000,000	1,394,635,167 ³
Guarantees to owners of return from moderate-rental housing projects.....	Unstated	Indeterminate
Guarantees under Export Credits Insurance Act Part I.....	100,000,000	64,545,993
Guarantees under Export Credits Insurance Act Part II.....	12,750,000	3,825,000
Loans made by chartered banks under the Farm Improvement Loans Act.....	58,952,089	39,117,850
Loans made by chartered banks under the Veterans Business and Professional Loans Act.....	Indeterminate	677,847
Loans made by chartered banks under the Prairie Grain Producers' Interim Financing Act, 1951.....	5,000,000	283
Loans made by chartered banks under the Prairie Grain Producers' Interim Financing Act, 1956.....	Indeterminate	941,821
Loans made by chartered banks under the Fisheries Improvement Loans Act.....	Indeterminate	72,773
Loans made by chartered banks to Canadian Wheat Board.....	150,000,000	103,065,754
Loans made by chartered banks under the Prairie Grain Advance Payments Act.....	Unstated	21,855,285

¹ These contingent liabilities are expressed in Canadian dollars; where applicable, stocks and bonds payable solely in sterling or United States dollars are converted on the basis of £1=\$2.80 and \$1 U.S.=\$1 Canadian, respectively. In addition the government has an indeterminate contingent liability in respect of rental guarantee contracts which in 1957 amounted to \$15,250,000. Against this amount was a reserve of \$2,002,077. ² As at Dec. 31, 1957. ³ As reported (in accordance with Sect. 45, National Housing Loan Regulations) by approved lenders for their respective fiscal years ended between Oct. 31 and Dec. 31, 1957.

A brief commentary dealing with the national debt of the Government of Canada from 1914 appears at p. 1091 of the 1954 Year Book. The following table summarizes the debt position during the period 1949-58 as to interest and amount outstanding. Details of unmatured debt and treasury bills outstanding and information on new security issues of the Federal Government may be found in the *Public Accounts*. They are summarized by standard classifications in DBS publication *Financial Statistics of the Government of Canada*.

13.—Summary of the Public Debt and Interest Payments Thereon, Years Ended Mar. 31, 1949-58

NOTE.—Statistics for 1867-1913 are given in the 1942 Year Book, p. 775; those for 1914-35 in the 1947 edition, p. 972; and those for 1936-48 in the 1951 edition, p. 1009.

Year	Gross Debt	Net Active Assets	Net Debt	Net Debt per Capita ¹	Increase or Decrease of Net Debt During Year	Interest Paid on Debt	Interest Paid per Capita ²
	\$	\$	\$	\$	\$	\$	\$
1949.....	16,950,403,795	5,174,269,643	11,776,134,152	875.74	-595,502,741	465,137,958 ³	36.27
1950.....	16,750,756,246	5,106,147,047	11,644,609,199	849.23	-131,524,953	439,816,355	32.71
1951.....	16,923,307,028	5,489,992,080	11,433,314,948	816.14	-211,294,251	425,217,500	31.01
1952.....	17,257,668,676	6,072,387,129	11,185,281,546	773.59	-248,033,402	452,423,082 ⁴	30.87
1953.....	17,918,490,812 ⁵	6,756,756,543 ⁵	11,161,734,269	751.88	-23,547,277	451,339,521	31.21
1954.....	17,923,189,502 ⁵	6,807,252,438 ⁵	11,115,937,064	727.15	-45,797,205	476,061,625	32.07
1955.....	17,951,491,464 ⁵	6,888,411,310 ⁵	11,263,080,154	717.49	147,143,090	477,914,894	31.26
1956.....	19,124,232,779 ⁵	7,843,863,815 ⁵	11,280,368,964	701.47	17,288,510	492,624,067	31.38
1957.....	18,326,190,715 ⁵	7,318,539,557 ⁵	11,007,651,158	663.55	-272,717,806	520,189,398	32.35
1958.....	18,418,541,848 ⁵	7,372,267,958 ⁵	11,046,273,890	647.94	38,622,732	539,207,260	32.50

¹ Based on the official estimates of population for June 1 of the year indicated (see p. 163).

² Based on the official estimates of population for June 1 of the year immediately preceding the one indicated (see p. 163).

³ The apparent increase in interest paid results from the accrued interest on refundable taxes having been charged in the year of repayment.

⁴ Excludes \$37,510,068 adjustment required to place interest on public debt on accrued basis.

⁵ These figures are not strictly comparable with those for 1952 and previous years mainly because of changed methods in accounting for cash.

Subsection 3.—Analysis of Revenue from Taxation

The following analysis of taxation revenue is confined to excise duties, excise taxes, income tax and succession duties; customs receipts constitute a single item in the *Public Accounts* and are not analysed here.

Excise Duties

Excise duties proper are presented below with a summary of the excise tariff and statistics arising as a by-product of administration, such as the quantities of grain and other products used in distillation and the quantities of goods taken out of bond and subject to excise tax.

Canadian Excise Tariff.—The following is a statement of the Canadian excise tariff as at Dec. 31, 1958:—

Spirits.....	per proof gal.	\$12.00	Spirits used directly in the manufacture of toilet preparations or cosmetics on which excise tax is applicable under Schedule I of the Excise Tax Act.....	per proof gal.	Free
Spirits used by licensed bonded manufacturers.....	per proof gal.	1.50	Canadian brandy.....	per proof gal.	\$10.00
Spirits used in bond for manufacture of perfume.....	per proof gal.	Free	Malt, all, when brought into a brewery.....	per lb.	Free
Spirits used in bond for manufacture of approved chemical compositions.....	per proof gal.	0.15	Beer, all.....	per Imp. gal.	0.38
Spirits sold to druggists licensed under the Excise Act to be used exclusively in preparation of prescriptions for medicines and pharmaceutical preparations....	per proof gal.	1.50	Tobacco, manufactured, all descriptions except cigarettes.....	per lb.	0.35
Spirits distilled from wine produced from native fruits, and used in any bonded manufactory for the treatment of domestic wine.....	per proof gal.	Free	Cigarettes, weighing not more than two and one-half pounds..	per M	4.00
Spirits imported and taken into a bonded manufactory (in addition to duties otherwise imposed).....	per proof gal.	0.30	Cigarettes, weighing more than two and one-half pounds.....	per M	5.00
			Cigars, all.....	per M	1.00
			Canadian raw leaf tobacco, when sold for consumption.....	per lb.	0.10

A drawback of 99 p.c. of the duty may be granted when domestic spirits, testing not less than 50 p.c. over proof, are delivered in limited quantities for medicinal or research purposes to universities, scientific or research laboratories, public hospitals, or health institutions in receipt of federal and provincial government aid.

14.—Gross Excise Duties Collected, Years Ended Mar. 31, 1954-58

Item	1954	1955	1956	1957	1958
	\$	\$	\$	\$	\$
Spirits.....	69,194,020	72,185,407	77,518,388	86,180,032	89,928,576
Beer or malt liquor.....	4,799,823	72,676,281	80,742,806	83,077,741	88,225,546
Malt.....	78,733,288	1,151,032 ¹	—	—	—
Tobacco and cigarettes.....	96,724,855	100,511,808	110,092,584	120,818,541	131,378,168
Cigars.....	245,862	241,177	262,477	267,235	305,894
Licences.....	36,519	36,826	35,143	35,556	34,069
Totals².....	249,734,366	246,802,531	268,651,398	290,379,105	309,872,253

¹ Tax on malt replaced by gallnage tax on beer. ² These totals do not agree with net excise duties as shown in Table 9 because refunds, drawbacks and, for spirits, a transfer tax are included here.

Statistics of Licences and Distillation.—As a result of the collection of excise duties, statistics are compiled of excise licences issued and of distillation.

15.—Statistics of Licences and Distillation, Years Ended Mar. 31, 1954-58

Item	1954	1955	1956	1957	1958
Licences issued..... No.	29	30	30	28	28
Licence fees..... \$	7,500	8,000	6,500	7,750	7,250
Grain, etc., Used for Distillation—					
Malt..... lb.	34,770,622	37,438,384	40,523,848	41,788,225	39,096,917
Indian corn..... “	223,715,461	233,470,614	256,237,853	281,209,649	247,011,281
Rye..... “	42,888,000	40,697,817	50,297,683	55,480,416	61,228,045
Wheat and other grain..... “	828,440	26,448,064	3,013,785	803,490	770,540
Totals, Grain Used..... lb.	302,202,523	338,054,879	350,073,169	379,371,780	348,106,783
Molasses used..... lb.	21,965,692	31,922,119	35,793,467	35,471,876	33,352,564
Wine and other materials..... “	3,696,117	5,721,010	5,303,650	4,114,008	4,875,894
Sulphide liquor..... gal.	394,040,231	370,916,068	409,830,302	368,070,334	374,711,047
Proof spirits manufactured.... proof gal.	24,710,625	27,330,433	28,535,869	30,028,834	28,135,387

The quantity of spirits manufactured has fluctuated greatly since 1920, varying from a low of 2,356,329 proof gal. in that year to a high of 35,555,059 proof gal. recorded in 1945. The total for 1958 was 28,135,387 proof gal.

Alcohol and Tobacco Taken Out of Bond.—The amounts of beverage spirits, malt beer, malt, cigars, cigarettes and other tobacco taken out of bond for consumption are given in the Domestic Trade Chapter, Table 36, p. 931.

Excise Taxes Collected

The statistics given in Table 16 represent gross excise tax collection by the Excise Division of the Department of National Revenue.

16.—Excise Taxes Collected, by Commodity, Years Ended Mar. 31, 1954-58

(Accrued Revenue)

Commodity	1954	1955	1956	1957	1958
	\$	\$	\$	\$	\$
Domestic—					
Automobiles, tires and tubes.....	92,498,632	71,356,616	63,298,865	69,314,263	62,108,080
Beverages.....	11,577,882	8,078,328	8,607,286	8,848,161	608,851
Candy and chewing gum.....	11,812,938	9,121,728	8,390,591	9,021,685	712,700
Carbonic acid gas.....	220,859	158,453	147,937	139,378	6,463
Cigars, cigarettes and tobacco.....	110,946,708	112,677,653	125,107,756	130,581,694	140,682,617
Electrical and gas apparatus.....	3,701,518	406,613	...	...	...
Furs.....	3,366,217	54,591	...	...	...
Licences.....	86,568	84,160	82,062	84,520	81,984
Lighters.....	218,211	124,684	80,674	69,640	60,329
Matches.....	1,019,072	656,642	597,394	604,431	632,146
Other taxes on manufactures.....	11,200,616	4,907,621	4,522,546	5,387,461	4,668,672
Phonographs, radios and tubes.....	15,874,817 ¹	20,521,374 ¹	21,640,746 ¹	17,763,111 ¹	15,509,269 ¹
Playing cards.....	709,600	649,915	648,975	635,202	701,555
Sales, domestic.....	633,817,293	616,558,675	676,008,159	764,048,020	764,789,901
Toilet preparations.....	6,768,726	5,016,582	5,335,626	5,828,044	6,032,146
Wines.....	2,230,673	2,354,267	2,485,760	2,618,324	2,744,237
Penalties and interest.....	309,888	342,250	315,014	399,648	476,786
Totals, Domestic.....	906,360,218	853,070,152	917,269,391	1,015,343,582	999,815,736
Imported.....	146,539,166	137,438,524	166,931,249	176,714,583	159,173,870
Grand Totals.....	1,052,899,387	990,508,676	1,084,200,640	1,192,058,165	1,158,989,606

¹ Includes tax on television sets and tubes of \$11,340,860 in 1954, \$16,668,388 in 1955, \$17,627,314 in 1956, \$12,443,101 in 1957 and \$9,927,745 in 1958.

Income Tax

Income Tax Collections by the Department of National Revenue on a Fiscal Year Basis.—Statistics of income tax collections are gathered at the time the payments are made and are therefore up to date. Over 85 p.c. of individual taxpayers are wage or salary earners who have almost the whole of their tax liability deducted at the source by their employers. All other taxpayers are required to pay most of their estimated tax during the taxation year. Thus, the greater part of the tax is collected during the same year in which the related income is earned and only a limited residue remains to be collected when the returns are filed. The collections for a given fiscal year include tax deductions and instalments for twelve months, embracing portions of two taxation years, and a mixture of year-end payments for the first of these years and for the preceding year, and cannot therefore be closely related to the statistics for a given taxation year. As little information about a taxpayer is received when the payment is made and, as a single cheque from one employer may frequently cover the tax payments of hundreds of employees, the payments cannot be statistically related to taxpayers by occupation or income. Descriptive classifications of taxpayers are available only from tax returns but collection statistics, if interpreted with the current tax structure and the above factors in mind, indicate the trend of income in advance of the final compilation of statistics.

The statistics given in Table 17 pertain to tax collections by the Taxation Division of the Department of National Revenue. The collections are for fiscal years ended Mar. 31.

17.—Taxes Collected by the Taxation Division of the Department of National Revenue, Years Ended Mar. 31, 1949-58

NOTE.—Figures for 1917-34 are given in the 1947 Year Book, pp. 999-1000; for 1935-48 in the 1951 edition, p. 994.

Year Ended Mar. 31—	Income Tax			Excess Profits Tax	Succession Duties	Total Collections
	Individual	Corporation	Total			
	\$	\$	\$	\$	\$	\$
1949.....	806,009,280	491,990,124	1,297,999,404	44,791,918	25,549,777	1,368,341,099
1950.....	669,457,059	603,193,132	1,272,650,191	—1,788,387 ¹	29,919,780	1,300,751,584
1951.....	713,938,999	799,196,511	1,513,135,510	10,140,910	33,599,089	1,556,875,509
1952.....	1,030,793,334 ²	1,132,680,074 ²	2,163,473,408 ²	2,364,909	38,207,985	2,204,046,302
1953.....	1,278,949,939 ²	1,276,940,150 ²	2,555,890,089 ²	—	33,070,529	2,593,960,618
1954.....	1,332,116,907 ²	1,246,786,598 ²	2,578,903,505 ²	—	39,137,594	2,618,041,099
1955.....	1,345,611,443 ²	1,066,585,823 ²	2,412,197,266 ²	—	44,768,020	2,456,965,285
1956.....	1,354,275,414 ²	1,081,055,818 ²	2,435,331,232 ²	—	66,607,026	2,501,938,258
1957.....	1,601,897,580 ²	1,335,636,914 ²	2,937,534,494 ²	—	79,709,197	3,017,243,691
1958.....	1,699,123,470 ²	1,295,470,725 ²	2,994,594,195 ²	—	71,607,758	3,066,201,953

¹ Refunds arising out of renegotiation of war contracts were in excess of collections.

² Includes old age security tax.

Individual Income Tax Statistics.—Individual income tax statistics are presented in Tables 18 and 19 on a calendar-year basis and are compiled from a sample of all returns received. Taxpayers are shown for certain selected cities and occupational classifications.

18.—Number of Taxpayers and Amounts of Income and Tax, by Selected Cities, 1955 and 1956

City and Province	1955			1956		
	Taxpayers	Total Income Assessed	Tax Payable ¹	Taxpayers	Total Income Assessed	Tax Payable ¹
	No.	\$'000	\$'000	No.	\$'000	\$'000
Brantford, Ont.....	16,750	59,724	5,563	17,728	62,994	5,599
Calgary, Alta.....	63,810	243,670	27,510	69,514	271,953	28,830
Edmonton, Alta.....	84,000	297,263	29,304	91,081	341,658	33,617
Fort William and Port Arthur, Ont.....	26,260	91,296	8,012	28,239	104,075	9,130
Halifax, N.S.....	40,120	131,168	10,610	41,931	140,502	11,377
Hamilton, Ont.....	101,920	376,897	36,699	110,347	430,765	42,338
Hull, Que.....	12,390	37,953	2,340	14,520	46,375	3,012
Kitchener and Waterloo, Ont.....	28,160	97,290	9,475	30,710	110,041	10,369
London, Ont.....	44,950	153,174	13,829	42,978	155,083	14,688
Montreal, Que.....	469,000	1,732,642	158,972	511,091	1,940,726	167,941
New Westminster, B.C.....	21,190	74,805	7,039	21,868	80,171	7,027
Niagara Falls, Ont.....	16,390	58,902	4,952	16,175	61,717	5,278
Oshawa, Ont.....	18,050	61,697	5,505	19,551	76,346	7,596
Ottawa, Ont.....	82,200	300,113	28,975	84,497	324,103	31,838
Quebec, Que.....	51,300	176,885	13,639	55,839	197,499	14,197
Regina, Sask.....	30,780	105,373	9,632	33,276	120,083	11,253
St. Catharines, Ont.....	20,770	75,177	6,518	22,922	90,985	8,892
St. John's, Nfld.....	17,680	58,674	4,852	17,164	61,308	5,677
Saint John, N.B.....	19,370	59,823	4,311	20,414	66,957	5,128
Saskatoon, Sask.....	21,460	74,374	6,726	24,634	85,655	7,472
Sherbrooke, Que.....	11,540	37,710	2,570	13,497	45,846	3,075
Sudbury and Copper Cliff, Ont.....	30,110	117,333	10,757	33,141	137,099	12,841
Sydney and Glace Bay, N.S.....	12,580	43,539	3,145	13,757	47,771	3,271
Toronto, Ont.....	551,240	2,099,728	239,133	595,249	2,308,241	258,425
Vancouver (incl. West Van.), B.C.....	186,330	697,335	72,083	207,702	816,863	85,415
Victoria, B.C.....	38,420	136,028	12,180	39,631	148,738	13,263
Windsor, Ont.....	56,900	214,102	19,831	57,425	222,310	20,002
Winnipeg, Man.....	130,390	446,516	40,890	135,747	485,267	43,981
Other localities.....	1,354,590	4,522,407	353,703	1,537,548	5,374,586	419,311
Totals.....	3,558,650	12,581,598	1,148,755	3,908,176	14,355,717	1,290,843

¹ Includes old age security tax.

19.—Number of Taxpayers and Amounts of Income and Tax, by Occupational Class, 1955 and 1956

Occupational Class	1955			1956		
	Taxpayers	Total Income Assessed	Tax Payable ¹	Taxpayers	Total Income Assessed	Tax Payable ¹
	No.	\$'000	\$'000	No.	\$'000	\$'000
Farmers.....	35,830	123,853	9,361	54,772	197,435	13,693
Fishermen.....	2,890	10,443	837	4,058	17,914	1,794
Professionals—						
Accountants.....	2,930	27,292	5,100	3,071	30,527	5,778
Medical doctors.....	10,680	129,936	27,315	11,868	154,917	32,392
Dentists.....	4,020	34,387	5,451	4,296	39,652	6,238
Lawyers and notaries.....	5,570	68,193	15,594	6,142	77,491	17,844
Engineers and architects.....	1,870	26,193	6,516	2,097	28,604	6,946
Nurses.....	3,370	7,014	470	3,826	7,744	477
Other professionals.....	7,210	39,015	5,074	7,702	44,128	5,846
Employees.....	3,161,250	10,412,971	847,567	3,472,436	11,961,356	969,858
Salesmen.....	43,420	211,365	24,027	46,318	240,723	26,576
Business proprietors.....	181,880	926,768	120,902	188,198	989,289	126,443
Investors.....	72,360	450,365	71,755	79,846	480,783	70,406
Pensioners.....	13,200	38,775	2,189	15,253	47,148	2,902
All others.....	12,170	75,028	6,597	8,293	38,006	3,650
Totals.....	3,558,650	12,581,598	1,148,755	3,908,176	14,355,717	1,290,843

¹ Includes old age security tax.

20.—Individual Income Tax Statistics, by Income Class, 1955 and 1956

Income	Taxpayers		Total Income Assessed		Tax Payable ¹		Average Tax ¹	
	1955	1956	1955	1956	1955	1956	1955	1956
	No.	No.	\$'000	\$'000	\$'000	\$'000	\$	\$
Under \$1,000.....	25,200	31,421	15,323	17,621	1,035	1,189	41	38
\$1,000 under \$1,100...	53,180	51,219	56,847	53,749	725	565	14	11
\$1,100 " \$1,200...	64,220	67,263	73,738	77,128	1,371	1,411	21	21
\$1,200 " \$1,300...	70,350	72,293	87,639	89,964	2,398	2,387	34	33
\$1,300 " \$1,400...	70,890	72,303	95,483	97,201	3,376	3,355	48	46
\$1,400 " \$1,500...	69,140	70,756	100,066	102,248	4,240	4,108	61	58
\$1,500 " \$1,600...	74,310	76,475	114,919	118,253	5,389	5,290	73	69
\$1,600 " \$1,700...	75,450	76,905	124,222	126,576	6,406	6,187	85	80
\$1,700 " \$1,800...	73,230	74,115	127,859	129,364	7,231	6,907	99	93
\$1,800 " \$1,900...	78,880	78,977	145,711	145,650	8,916	8,258	113	105
\$1,900 " \$2,000...	75,640	77,242	147,434	150,221	9,620	9,192	127	119
Totals, \$1,000 and under \$2,000.....	705,290	717,548	1,073,918	1,090,354	49,672	47,660	70	66
\$2,000 under \$2,100...	81,770	85,944	167,459	175,802	10,315	10,444	126	122
\$2,100 " \$2,200...	85,880	84,634	184,360	181,590	11,577	10,776	135	127
\$2,200 " \$2,300...	86,870	88,293	195,193	198,258	12,066	11,861	139	134
\$2,300 " \$2,400...	93,230	95,767	218,793	224,561	13,184	13,219	141	138
\$2,400 " \$2,500...	97,930	95,319	239,709	233,076	14,339	13,747	146	144
\$2,500 " \$2,600...	103,400	100,020	262,475	254,528	15,137	14,941	147	149
\$2,600 " \$2,700...	108,690	107,142	287,472	283,263	16,486	16,013	152	149
\$2,700 " \$2,800...	111,790	111,084	306,945	304,922	17,670	17,505	158	158
\$2,800 " \$2,900...	109,200	112,401	310,765	319,787	18,028	18,380	165	164
\$2,900 " \$3,000...	105,500	113,226	310,750	333,459	18,230	19,473	173	172
Totals, \$2,000 and under \$3,000.....	983,900	993,830	2,483,924	2,509,246	147,032	146,359	149	147

¹ Includes old age security tax.

20.—Individual Income Tax Statistics, by Income Class, 1955 and 1956—concluded

Income	Taxpayers		Total Income Assessed		Tax Payable ¹		Average Tax ¹	
	1955	1956	1955	1956	1955	1956	1955	1956
	No.	No.	\$'000	\$'000	\$'000	\$'000	\$	\$
\$3,000 under \$3,100...	112,950	108,355	343,884	329,901	20,398	19,398	181	179
\$3,100 " \$3,200...	108,950	112,456	342,659	353,660	20,708	21,285	190	189
\$3,200 " \$3,300...	102,450	112,897	332,284	366,456	20,100	22,357	196	198
\$3,300 " \$3,400...	101,890	106,822	340,767	357,405	21,228	22,305	208	209
\$3,400 " \$3,500...	99,260	104,257	341,843	359,099	21,815	22,768	220	218
\$3,500 " \$4,000...	422,430	470,662	1,575,558	1,758,035	108,500	118,013	257	251
\$4,000 " \$4,500...	281,510	344,691	1,189,762	1,457,708	92,807	108,819	330	316
\$4,500 " \$5,000...	178,030	228,471	841,083	1,079,857	72,219	89,241	406	391
Totals, \$3,000 and under \$5,000....	1,407,470	1,588,611	5,307,840	6,062,121	377,775	424,186	268	267
\$5,000 under \$6,000...	186,920	251,679	1,013,387	1,365,457	96,821	125,086	518	497
\$6,000 " \$7,000...	84,180	119,392	541,472	768,010	57,392	77,629	682	650
\$7,000 " \$8,000...	44,950	60,634	334,838	450,986	38,876	49,707	865	820
\$8,000 " \$9,000...	26,340	35,652	222,538	300,887	27,724	35,415	1,053	993
\$9,000 " \$10,000...	18,040	23,447	170,621	221,620	22,707	28,245	1,259	1,205
Totals, \$5,000 and under \$10,000....	360,430	490,804	2,282,856	3,106,960	243,520	316,082	676	644
\$10,000 under \$15,000	43,000	48,968	516,838	586,390	81,220	88,281	1,889	1,803
\$15,000 " \$20,000	15,960	17,504	271,564	298,557	55,411	59,259	3,472	3,385
\$20,000 " \$25,000	6,700	7,376	149,491	163,578	36,558	38,592	5,456	5,232
Totals, \$10,000 and under \$25,000....	65,660	73,848	937,893	1,048,525	173,189	186,132	2,638	2,520
\$25,000 under \$50,000	8,320	9,598	277,921	316,360	82,428	90,585	9,907	9,438
\$50,000 and over....	2,380	2,516	201,923	204,530	74,104	78,650	31,136	31,260
Totals, \$25,000 and over.....	10,700	12,114	479,844	520,890	156,532	169,235	14,629	13,970
Grand Totals	3,558,650	3,908,176	12,581,598	14,355,717	1,148,755	1,290,843	323	330

¹ Includes old age security tax.

Corporation Income Tax Statistics.—Corporation statistics presented in Tables 21 and 22 are on a taxation-year basis prior to assessment. The data were extracted and compiled from the returns shortly after they were filed and are as declared by the taxpayer without the scrutiny or revision of the Department of National Revenue. Provincial figures contain an unavoidable bias in favour of Ontario and Quebec because many large corporations operating across Canada file their returns in one or other of these two provinces.

21.—Summary Statistics for Corporations Reporting a Profit, Taxation Years 1955 and 1956

Item	1955			1956		
	Corporations Reporting	Current Year Profit	Total Tax Declared ¹	Corporations Reporting	Current Year Profit	Total Tax Declared ¹
	No.	\$'000,000	\$'000,000	No.	\$'000,000	\$'000,000
Active taxable corporations—excluding co-operatives and Crown corporations.....	41,864	2,901.9	1,180.0	49,442	3,258.1	1,316.7
Inactive corporations.....	1,013	0.8	0.1	1,106	0.5	0.1
Co-operatives.....	1,890	9.1	2.6	1,960	7.7	1.9
Crown corporations.....	7	31.2	9.9	9	49.6	11.2
Totals, Taxable Corporations...	44,774	2,943.0	1,192.5	52,517	3,315.9	1,329.9
Personal corporations.....	1,738	27.4	—	1,889	30.0	—
Other exempt corporations.....	3,019	34.0	—	3,133	19.4	—
Totals, Taxable and Exempt.....	49,531	3,004.4	1,192.5	57,539	3,365.3	1,329.9

¹ Includes old age security tax.

22.—Distribution of Active Taxable Corporations Reporting a Profit, by Industry and Province, Taxation Years 1955 and 1956

Industrial Division and Province	1955			1956		
	Corporations Reporting	Current Year Profit	Total Tax Declared ¹	Corporations Reporting	Current Year Profit	Total Tax Declared ¹
	No.	\$'000,000	\$'000,000	No.	\$'000,000	\$'000,000
Industrial Division						
Agriculture, fishing and forestry	774	19.8	6.9	1,056	21.6	6.6
Mining.....	551	224.2	97.3	794	222.6	97.4
Manufacturing.....	10,149	1,536.0	654.7	11,418	1,654.8	701.1
Construction.....	3,909	97.9	32.4	4,973	127.7	42.4
Transportation, storage and communications.....	1,981	200.2	83.0	2,411	247.3	103.2
Public utilities.....	149	55.0	22.7	168	63.1	26.1
Wholesale trade.....	7,103	222.0	79.5	7,804	308.0	114.6
Retail trade.....	7,403	175.3	65.4	8,927	209.7	76.1
Finance.....	6,032	306.6	116.7	7,504	329.4	123.4
Service.....	3,813	64.9	21.4	4,387	74.1	25.8
Totals.....	41,864	2,901.9	1,180.0	49,442	3,258.1	1,316.7
Province						
Newfoundland.....	487	30.2	12.6	573	27.5	10.2
Prince Edward Island.....	166	3.9	1.3	205	5.0	1.8
Nova Scotia.....	1,311	37.6	14.4	1,425	43.2	19.0
New Brunswick.....	875	33.9	13.9	951	35.8	14.5
Quebec.....	10,659	895.2	342.1	12,062	998.5	377.8
Ontario.....	15,148	1,361.2	580.4	18,366	1,564.6	664.3
Manitoba.....	2,128	93.5	39.0	2,496	109.4	45.1
Saskatchewan.....	1,020	17.5	5.8	1,252	23.6	7.9
Alberta.....	3,275	116.3	41.2	4,072	140.7	52.8
British Columbia.....	6,795	312.6	129.3	8,040	304.8	123.3

¹ Includes old age security tax.

23.—Corporations Reporting a Profit, by Income Class and Size of Total Assets, Taxation Years 1955 and 1956

NOTE—Figures are for Corporations described as "fully tabulated", which means corporations for which sufficient information has been received for complete analyses.

Income Class and Size of Assets	1955		1956	
	Corporations Reporting	Current Year Profit	Companies Reporting	Current Year Profit
Income Class	No.	\$'000,000	No.	\$'000,000
Under \$5,000.....	16,716	32.3	18,254	30.8
\$5,000 under \$10,000.....	6,633	47.9	8,372	57.1
\$10,000 under \$25,000.....	10,121	166.5	13,423	219.8
\$25,000 under \$50,000.....	3,054	107.4	3,380	118.6
\$50,000 under \$100,000.....	1,864	130.0	2,059	142.7
\$100,000 under \$250,000.....	1,479	229.8	1,681	259.9
\$250,000 under \$500,000.....	594	208.6	668	231.6
\$500,000 under \$1,000,000.....	335	229.7	405	283.6
\$1,000,000 under \$5,000,000.....	287	613.4	327	876.6
\$5,000,000 or over.....	75	1,004.4	81	1,104.1
Totals.....	41,158	2,769.9	48,650	3,124.8
Total Assets				
Under \$50,000.....	9,729	33.8	11,446	40.4
\$50,000 under \$100,000.....	8,569	58.9	9,859	70.2
\$100,000 under \$250,000.....	10,862	138.8	13,362	171.2
\$250,000 under \$500,000.....	5,260	138.5	6,518	163.2
\$500,000 under \$1,000,000.....	3,107	173.7	3,344	189.0
\$1,000,000 under \$5,000,000.....	2,718	450.2	3,042	508.3
\$5,000,000 under \$10,000,000.....	397	198.6	488	232.4
\$10,000,000 under \$25,000,000.....	270	232.2	308	332.0
\$25,000,000 under \$100,000,000.....	195	601.7	209	550.8
\$100,000,000 or over.....	51	693.6	64	867.4

Succession Duties

A history of succession duties in Canada, together with examples of the occurrences of federal duty on typical estates and of combined federal and provincial duties on typical estates, is given in the 1956 Year Book, pp. 1064-1068.

At Dec. 31, 1957, only Ontario and Quebec among the provinces remained in this field. The federal legislation was amended, effective for the estates of persons dying on or after Apr. 1, 1957, by allowing a full 50-p.c. reduction of the federal duty on any property which had been taxed by Canada and a prescribed province (Ontario and Quebec) and a similar 50-p.c. reduction in the federal duty on pensions in the estates of persons dying domiciled in the said provinces. Another amendment provides that charitable successions may be deducted from the aggregate net value of the estate so that the amount of such items will not result in increasing the rates of duty paid by other successors.

If gift tax payable under the provisions of the Income Tax Act has been paid in connection with the transfer made by a deceased person during his lifetime, then no succession duty is payable in respect of such gift except to the extent that succession duty thereon is in excess of the gift tax.

The Estate Tax Act passed by Parliament in 1958 applies to the estates of persons dying on or after Jan. 1, 1959. The Dominion Succession Duty Act still applies to the estates of persons dying before that date. The new Act classifies estates into two groups, depending on the domicile of the deceased at the time of death.

The estates of persons domiciled in Canada at the time of death are taxed under Part I. The basic charging provision provides that an estate tax shall be paid upon the aggregate taxable value of all property, including foreign realty, passing on the death of a person. The aggregate taxable value is the aggregate net value of the property computed in accordance with Division "B" of Part I minus the deductions permitted by Division "C". The new Act provides that the tax is to be computed by reference to the property passing on the death or deemed to pass on death rather than a personal tax upon the successor in respect of the disposition or devolution to him. As a result there is just one rate of tax regardless of how the estate is distributed.

The new Act provides, as does the old Act, that no tax is applicable if the aggregate net value of the estate is not over \$50,000. However, the new Act provides for a minimum of \$40,000 in all estates and an additional deduction of \$20,000 where the deceased's wife survives and \$10,000 for each child under 21 or over 21 if wholly dependent upon the deceased or his wife because of infirmity. The \$10,000 deduction for such a child is increased to \$15,000 if the deceased's husband or wife did not survive him. These deductions are allowed regardless of whether or not the wife or child receive any benefit. The value of property passing to a charitable organization in Canada is also deductible less any estate tax or succession duty payable out of such property.

The estates of persons domiciled outside Canada at the time of death are taxed under Part II in respect of property situated in Canada at the time of death. Such property is subject to a tax of 15 p.c. if the total value of it is over \$5,000. In computing the taxable value no deduction may be made for debts unless such debts are charged on or secured by such property.

Table 24 shows the receipts of the various governments from succession duties for 1955-58.

24.—Federal and Provincial Net Revenue from Succession Duties, Years Ended Mar. 31, 1955-58

NOTE.—Statistics for 1948-52 are given in the 1954 Year Book, p. 1080, and for 1953-54 in the 1956 edition, p. 1064.

Province	1955	1956	1957	1958
	\$'000	\$'000	\$'000	\$'000
Federal.....	44,768	66,607	79,709	71,608
Provincial— ¹				
Newfoundland.....	—	—	—	—
Prince Edward Island.....	—	—	—	—
Nova Scotia.....	2	5	2	15
New Brunswick.....	—	—	4	—
Quebec.....	13,000	46,558	35,372	20,640
Ontario.....	23,000	25,463	29,161	30,000
Manitoba.....	3	5	6	3
Saskatchewan.....	23	10	6	10
Alberta.....	5	5	4	5
British Columbia.....	—	—	—	—

¹ Under terms of the 1952 and 1957 Dominion-Provincial Taxation Agreements all provinces except Ontario and Quebec refrain from levying succession duties; amounts shown for other provinces are arrears. Provincial figures for 1958 are preliminary.

Subsection 4.—Subsidies and Taxation Agreements with the Provinces

Subsidies.—A summary history of certain annual payments made by the Federal Government to the provinces under the provisions of the British North America Act and subsequent arrangements entered into from time to time appears in the 1956 Year Book, pp. 1068-1069. All payments made by the Federal Government to the provinces during the year ended Mar. 31, 1957 are shown in detail in Table 6, on p. 1056.

Taxation Agreements.—Early in World War II, in order to provide revenue for heavy national expenditures and at the same time control inflationary tendencies, the provincial governments vacated the income and corporation tax fields in favour of the Federal Government for the duration of the War and a limited period thereafter, after agreeing to the terms of a tax rental fee from the Federal Government. The Agreements of 1942 were succeeded in turn by the Agreements of 1947 and the Tax Rental Agreements 1952. Under the 1952 Agreements, all provinces except Ontario and Quebec agreed to lease their personal and corporation income taxes, special corporation taxes and succession duties to the Government of Canada in exchange for a rental fee. Ontario, which had not entered into the 1947 Agreements, also agreed to lease personal and corporation income taxes and special corporation taxes but retained the right to levy succession duties. In 1952 the nine provinces received \$303,000,000 in tax rental fees compared with \$96,000,000 received by the eight provinces in 1951.

The Wartime Tax Agreements of 1942 are outlined in the 1946 Year Book, pp. 900-901. The 1947 and 1952 Tax Rental Agreements are outlined at pp. 1087-1090 of the 1954 edition.

With the 1952 Rental Agreements expiring at Mar. 31, 1957, conferences were held with the provinces in April and October 1955 and March 1956 to discuss new financial arrangements. At the October meeting the Federal Government put forward certain suggestions for discussion. These were revised and became part of the actual proposals made by letter on Jan. 6, 1956. Some further revisions in detail were made following a meeting with the provinces on Mar. 9, 1956, and the final proposals were incorporated in a Bill presented to Parliament in July 1956, entitled the Federal-Provincial Tax-Sharing Arrangements Act. This Act received Royal Assent on July 31, 1956.

The new proposals differ substantially in principle from those previously in effect, for, while provision is still made for tax rental agreements in the fields of individual and corporation income tax and succession duties, the rental fee payable is directly related to the return from these fields at agreed rates in the province concerned.

The fiscal aid subsidies which were formerly contained in the tax rental fees are now separated from such fees and contained in specific payments called "tax equalization payments". These payments are to be used to bring the per capita yield from standard taxes in a province in a year up to the level of the two provinces for which the per capita standard taxes for that year are greatest.

The standard taxes involved are: (a) individual income tax at 10 p.c. of the Federal tax; (b) corporation income tax at 9 p.c. of corporation taxable income; and (c) succession duties at 50 p.c. of the federal duties averaged over a three-year period.

In addition, provincial revenue stabilization payments are provided which will support the payments to a province at a level determined by the greatest of: (a) the adjusted 1957 tax rental payment which is the amount payable in 1956-57 to any province whether under an agreement or not, adjusted for any population changes in the year in question; (b) the projected tax rental payment which is the amount that would be payable to any province in a year if the 1952 Tax Rental Agreements were to be extended into the year in question; and (c) the basic stabilization amount which for 1958-59 is 95 p.c. of the amount of tax equalization payments, provincial revenue stabilization payments and current tax rental payments applicable to the province in 1957-58; and, for subsequent years, 95 p.c. of the average of such payments in the two previous years.

The tax equalization payments and the provincial revenue stabilization payments are payable to a province regardless of any action they may take in these tax fields. Tax rental payments are subject to agreement.

Rental agreements have been entered into with all provinces except Quebec and Ontario in all three tax fields. Ontario has rented the individual income tax to the Federal Government but levies its own corporation income and corporation taxes and succession duties. Quebec continues to levy all three taxes. Where a province levies its own taxes, there is a reduction of federal tax provided at the standard rate noted above.

Following a Dominion-Provincial Conference in November 1957, an interim measure covering the fiscal year commencing Apr. 1, 1958, was introduced in the House of Commons on Jan. 27, 1958, increasing from 10 p.c. to 13 p.c. that portion of the "standard individual income tax" which the ten provinces were entitled to receive under the Federal-Provincial Tax-Sharing Arrangements Act of 1956. Linked with the above was a second measure providing Atlantic Provinces adjustment grants of \$25,000,000 for each of four fiscal years and divided as follows: Nova Scotia, New Brunswick and Newfoundland each \$7,500,000, and Prince Edward Island \$2,500,000.

Section 3.—Provincial Public Finance

Provincial government accounting and reporting practices vary considerably so that certain adjustments to the *Public Accounts* figures are required in order to produce comparable statistics. For example, transactions relating to a specific function are sometimes

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excluded from ordinary account; therefore special or administrative funds of this nature have been added to provincial ordinary account in the tables of this Section.

Fiscal periods are as nearly coincident as possible in view of the variations in provincial fiscal year-ends prior to the 1951 fiscal year; as of 1952 the fiscal years of all provinces end on Mar. 31. Figures for Newfoundland are included from 1949, for Yukon Territory from 1950, and for the Northwest Territories from 1955.

Subsection 1.—Revenue and Expenditure of Provincial Governments

Net general revenue as shown in Tables 25 and 26 is achieved by deducting from gross general (ordinary and capital) revenue (a) all institutional revenue, (b) revenue in the form of interest, premium, discount and exchange, (c) grants-in-aid and shared-cost contributions, and (d) all capital revenue. These revenues are then offset against the related functions of expenditure to arrive at net general (ordinary and capital) expenditure, shown in Tables 25 and 27.

25.—Gross and Net Revenue and Expenditure of Provincial Governments, Years Ended Mar. 31, 1951-57

Province or Territory	1951	1952	1953	1954	1955	1956	1957
GROSS ORDINARY REVENUE							
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Newfoundland.....	27,744	30,359	35,055	35,632	37,865	39,106	43,654
Prince Edward Island..	7,007	7,327	7,941	8,336	8,870	8,845	8,631
Nova Scotia.....	48,540 ¹	49,336	52,927	56,221	59,172	62,463	66,391
New Brunswick.....	40,283 ²	48,769	51,977	56,657	57,142	59,245	64,552
Quebec.....	233,846	318,821	313,712	332,959	373,638	453,084	486,906
Ontario.....	313,336	348,506	395,253	402,384	436,331	473,087	523,909
Manitoba.....	63,327	57,067	63,924	67,166	69,111	73,015	79,457
Saskatchewan.....	79,192	85,804	98,611	106,491	110,002	114,316	134,166
Alberta.....	118,088	118,341	153,295	195,424	187,878	238,686	258,263
British Columbia.....	156,586	175,387	196,488	202,428	216,011	248,923	297,517
Yukon Territory.....	1,077	1,532	..	1,916	1,968	2,522	2,078
Northwest Territories..	..	..	..	..	746	967	1,190
Totals.....	1,139,026	1,241,249	1,369,183	1,465,614	1,558,734	1,771,239	1,966,714
GROSS ORDINARY EXPENDITURE							
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Newfoundland.....	28,099	30,038	29,095	33,481	37,430	40,838	45,180
Prince Edward Island..	6,993	7,153	6,569	6,831	7,447	8,704	9,135
Nova Scotia.....	47,496 ¹	49,910	50,614	54,191	58,572	62,718	71,469
New Brunswick.....	40,892 ²	50,102	52,322	57,528	58,328	60,575	66,679
Quebec.....	245,853	256,911	284,840	296,537	337,116	375,271	401,081
Ontario.....	310,155	364,064	367,176	409,903	444,954	508,184	554,339
Manitoba.....	61,706	53,628	56,693	59,464	57,328	61,497	65,801
Saskatchewan.....	74,819	79,081	79,978	86,379	95,761	102,511	116,070
Alberta.....	61,166	70,582	74,980	89,260	105,603	127,975	137,299
British Columbia.....	162,792	170,282	205,203	200,010	206,872	237,202	308,511
Yukon Territory.....	900	1,140	..	1,610	1,649	2,142	2,518
Northwest Territories..	..	..	..	..	680	779	951
Totals.....	1,040,871	1,132,891	1,207,475	1,295,194	1,411,740	1,588,396	1,779,033
NET GENERAL REVENUE							
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Newfoundland.....	21,028	25,183	31,734	31,641	32,851	33,534	36,870
Prince Edward Island..	5,590	6,048	7,288	7,671	8,154	8,044	7,570
Nova Scotia.....	35,685 ¹	38,794	46,647	49,346	51,418	54,329	57,881
New Brunswick.....	32,271 ²	40,697	46,555	49,220	50,788	52,783	57,335
Quebec.....	238,883	277,406	284,703	299,417	339,108	412,745	445,930
Ontario.....	265,705	303,842	364,507	370,897	399,058	431,802	481,775
Manitoba.....	41,643	46,073	55,456	55,822	56,706	59,349	66,120
Saskatchewan.....	66,668	74,777	91,094	98,415	99,651	102,702	121,872
Alberta.....	105,276	105,751	144,504	185,351	175,097	225,326	241,317
British Columbia.....	138,681	157,102	185,368	186,337	199,658	230,773	273,059
Yukon Territory.....	1,023	1,187	..	1,460	1,632	1,785	1,703
Northwest Territories..	..	..	..	..	707	916	1,125
Totals.....	952,453	1,076,360	1,257,856	1,336,079	1,414,828	1,614,088	1,792,557

For footnotes, see end of table, p. 1074.

25.—Gross and Net Revenue and Expenditure of Provincial Governments, Years Ended Mar. 31, 1951-57—concluded

Province or Territory	1951	1952	1953	1954	1955	1956	1957
NET GENERAL EXPENDITURE ²							
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Newfoundland.....	27,425	29,895	28,881	32,802	39,086	42,419	44,346
Prince Edward Island..	7,053	7,865	7,064	7,167	8,822	10,343	10,094
Nova Scotia.....	51,746 ¹	49,148	46,464	51,254	52,638	57,688	70,756
New Brunswick.....	40,688 ²	40,038	44,927	47,813	50,990	54,451	59,399
Quebec.....	224,423	261,196	313,117	310,999	349,983	399,713	433,459
Ontario.....	278,926	335,817	372,019	384,215	420,999	488,932	552,155
Manitoba.....	35,387	42,725	42,023	46,702	48,552	51,940	62,867
Saskatchewan.....	61,948	71,781	80,187	85,783	96,145	100,781	110,132
Alberta.....	73,051	81,965	103,583	118,150	138,303	159,375	170,000
British Columbia.....	140,656	152,250	168,875	171,780	178,585	207,490	257,641
Yukon Territory.....	1,001	1,163	..	1,154	1,313	1,405	2,143
Northwest Territories..	..	..	..	..	641	728	886
Totals.....	942,304	1,073,843	1,207,140	1,257,819	1,386,057	1,575,265	1,773,818

¹ Sixteen months ended Mar. 31, 1951.

² Twelve months ended Oct. 31, 1950.

³ Excludes debt retirement.

26.—Details of Net General Revenue of Provincial Governments, Years Ended Mar. 31, 1956 and 1957

Source	1956	1957	Source	1956	1957
	\$'000	\$'000		\$'000	\$'000
Taxes—			Other Governments—		
Corporations.....	19,601	20,265	Government of Canada—		
Income—			Share of income tax on electric power utilities.....	7,947	6,613
Corporations.....	53,950	62,161	Subsidies.....	23,421	22,810
Individuals.....	30,208	36,359	Totals, Government of Canada..	31,368	29,423
Property.....	7,375	8,030			
Sales—			Municipalities.....	244	240
Alcoholic beverages.....	2,073	2,185	Totals, Other Governments.....	31,612	29,663
Amusements and admissions..	20,675	20,334			
Motor fuel and fuel oil.....	269,429	300,546	Government Enterprises and Other Funds—		
Tobacco.....	15,022	16,668	Liquor profits.....	139,167	153,801
General.....	149,444	177,897	Other.....	3,458	4,314
Other commodities and services.....	4,994	5,406	Other Revenue.....	935	760
Succession Duties.....	72,046	64,555	Totals, excluding Non-revenue and Surplus Receipts.....	1,611,862	1,790,170
Other.....	19,939	18,368			
Totals, Taxes.....	664,756	732,774	Non-revenue and Surplus Receipts—		
Federal Tax Rental Agreements..	320,310	366,328	Refund of previous years' expenditure.....	898	850
Privileges, Licences and Permits—			Repayment of advances credited to revenue.....	1,208	1,464
Liquor control and regulation..	32,710	33,343	Other.....	120	73
Motor vehicle.....	114,264	127,503	Totals, Non-revenue and Surplus Receipts.....	2,226	2,387
Natural resources.....	256,905	287,905	Totals, Net General Revenue..	1,614,088	1,792,557
Other.....	18,256	20,086			
Totals, Privileges, Licences and Permits.....	422,135	468,837			
Sales and Services.....	24,196	27,083			
Fines and Penalties.....	5,293	6,610			

27.—Details of Net General Expenditure of Provincial Governments, Years Ended Mar. 31, 1956 and 1957

Function	1956	1957	Function	1956	1957
	\$'000	\$'000		\$'000	\$'000
General Government—			Education—concluded		
Executive and administrative...	56,671	60,489	Universities, colleges and other schools...	70,725	67,289
Legislative.....	7,654	8,788	Education of the handicapped...	4,739	3,798
Research, planning and statistics.	596	552	Superannuation and pensions.....	11,625	11,584
Totals, General Government....	64,921	69,829	Other.....	8,305	7,749
			Totals, Education.....	332,938	362,960
Protection of Persons and Property—			Natural Resources and Primary Industries—		
Law enforcement.....	18,066	18,712	Fish and game.....	12,480	13,469
Corrections.....	20,247	22,266	Forests.....	39,992	41,923
Police protection.....	19,197	23,756	Lands: settlement and agriculture	49,302	54,129
Other.....	24,877	26,859	Minerals and mines.....	8,771	9,511
Totals, Protection of Persons and Property.....	82,387	91,593	Water resources.....	7,313	6,924
			Other.....	4,291	6,621
Transportation and Communications—			Totals, Natural Resources and Primary Industries.....	122,149	132,577
Highways, roads and bridges...	443,434	556,831	Trade and Industrial Development	8,060	9,444
Railways.....	51	56	Local Government Planning and Development.....	3,292	3,718
Telephone, telegraph and wireless	24	21	Debt Charges.....	138,523	166,102
Waterways.....	4,307	4,542	Contributions to Local Governments—		
Other.....	172	32	Shared-revenue contributions....	10,031	11,015
Totals, Transportation and Communications.....	447,988	561,482	Subsidies.....	25,702	28,985
			Other.....	837	864
Health and Social Welfare—			Totals, Contributions to Local Governments.....	36,570	40,864
Health—			Contributions to Government Enterprises.....	10,108	7,928
General.....	5,226	5,678	Other Expenditure.....	12,977	9,575
Public health.....	18,375	17,840	Totals, excluding Non-expenditure and Surplus Payments.....	1,652,557	1,878,104
Medical, dental and allied services.....	9,044	9,760	Non-expenditure and Surplus Payments—		
Hospital care.....	214,257	228,261	Advances charged to revenue....	1,066	1,244
Totals, Health.....	246,902	261,539	Refunds of previous years' revenue.....	164	373
			Other.....	5,184	4,891
Social Welfare—			Totals, Non-expenditure and Surplus Payments.....	6,414	6,508
Aid to aged persons.....	42,801	47,180	Totals, Net General Expenditure.....	1,658,971	1,881,612
Aid to blind persons.....	1,724	1,808	Less Debt Retirement included above.....	83,706	110,794
Aid to unemployed employables and unemployables...	22,057	24,446	Totals, Net General Expenditure Excluding Debt Retirement.....	1,575,265	1,773,818
Mothers' allowances.....	22,717	22,758			
Child welfare.....	18,150	17,956			
Labour.....	3,403	3,726			
Other.....	23,079	25,460			
Totals, Social Welfare.....	133,931	143,334			
Totals, Health and Social Welfare.....	380,833	404,873			
Recreational and Cultural Services	11,811	17,159			
Education—					
Schools operated by local authorities.....	237,544	272,540			

28.—Specified Amounts Paid to Other Governments by Provincial Governments, Year Ended Mar. 31, 1957

Nature of Payment	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon	N.W.T.	Canada
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Paid to Local Governments—													
Shared-revenue contributions ¹	—	—	14	—	—	861	—	—	10,140	—	—	—	11,015
Subsidies.....	524	118	1,057	2,987	—	14,702	—	—	92	9,428	52	25	28,985
Grants in lieu of local taxes on provincial government property ²	—	—	—	—	—	628	135	—	66	—	—	—	840
Other.....	7	4	—	—	—	—	—	—	—	24 ³	—	—	24
Grants-in-Aid and Shared-Cost Contributions—													
Corrections.....	—	—	—	23	—	—	—	—	—	—	—	—	23
Police protection.....	—	—	—	—	—	182	—	—	—	—	—	—	182
Fire protection.....	17	2	—	—	850	128	—	—	—	—	—	—	997
Other protection.....	—	—	—	—	72	7	—	—	—	—	—	—	79
Highways, roads and bridges.....	96	1	—	184	4,517	45,922	1,961	2,665	3,776	232	—	—	59,354
Public health.....	210	—	—	—	—	1,738	60	176	730	248	—	—	3,162
Medical, dental and allied services.....	—	—	—	—	—	31	44	—	—	—	—	—	75
Hospital care ⁴	—	—	—	—	—	—	691	—	2,395	—	—	—	3,086
Aid to aged persons (homes).....	—	—	—	—	—	4,373	—	4	—	—	—	—	4,377
Aid to unemployed employables and unemployables.....	—	5	—	29	—	3,891	822	1,632	1,030	2,694	—	—	10,043
Child welfare.....	—	—	—	96	—	1,340	177	—	318	611	—	—	3,042
Other health and social welfare.....	—	—	2	—	—	—	15	—	—	—	—	—	17
Parks, beaches and other recreational areas.....	20	—	—	—	3	265	—	1	28	—	—	—	317
Physical culture.....	—	—	—	—	—	367	—	1	—	—	—	—	368
Other recreational and cultural services.....	—	—	—	—	—	—	—	—	—	75	—	—	79
Schools operated by local authorities ⁵	1,134	11,412	7,406	53,917	79,959	9,580	13,428	36,085	37,073	8	64 ⁶	250,058	1,452
Lands—settlement and agriculture.....	—	—	—	—	386	772	196	96	—	2	—	—	178
Local government planning and development.....	20	—	8	85	—	65	—	—	—	—	—	—	682
Civil defence.....	—	—	16	17	—	311	—	—	94	244	—	—	10
Housing.....	10	—	—	—	—	—	—	—	—	—	—	—	280
Other payments.....	35	—	—	—	172 ¹⁰	25	47 ¹¹	—	—	1	—	—	—
Totals, Paid to Local Governments.....	939	1,264	12,509	10,827	59,917	156,067	13,728	18,003	54,758	50,572	52	89	373,725
Paid to Government of Canada—													
Police services—RCMP.....	299	95	432	303	—	—	541	772	874	975	—	—	4,291
Totals, Paid to All Governments.....	1,238	1,359	12,941	11,130	59,917	156,067	14,269	18,775	55,632	51,547	52	89	383,016

¹ N.S.—Crown land leases; Ont.—municipal share of liquor licences; Alta.—share of gasoline tax \$9,990,000, and share of liquor fines \$150,000.
² Excludes grants in lieu of taxes paid by provincial government enterprises.
³ Reimbursement of taxes to newly incorporated or extended municipalities.
⁴ Excludes amounts paid directly to municipal hospital boards.
⁵ Includes grants paid directly to teachers in P.E.I., N.B., and Que.
⁶ Primary and secondary schools are operated on a denominational basis; grants to denominational schools amount to \$7,921,000.
⁷ Excludes \$3,735,000 expenditures by the province to meet debt charges of various school corporations.
⁸ Local schools are operated by the territorial government and by religious denominations.
⁹ Local schools are operated by the Federal Government; religious denominations and school districts; amount shown was paid to school districts.
¹⁰ Includes \$119,000 paid to Nicolet following disastrous fires.
¹¹ Emergency flood relief.

Subsection 2.—Debt of Provincial Governments

Table 29 shows total bonded debt, by province, as at Mar. 31, 1951-57. Table 30 shows that the majority of bond issues are payable in Canada, but that the portion payable in New York only increased slightly from 18 p.c. in 1956 to 19 p.c. in 1957. Table 31 provides details of total direct and indirect debt of provincial governments as at Mar. 31, 1957.

29.—Gross Bonded Debt (exclusive of Treasury Bills) of Provincial Governments, as at Mar. 31, 1951-57

NOTE.—These figures have been revised since the publication of the 1957-58 Year Book.

Province and Year	Bonded Debt	Average Interest Rate	Average Term of Issue	Province and Year	Bonded Debt	Average Interest Rate	Average Term of Issue
Newfoundland—	\$'000	p.c.	yrs.	Ontario—concluded	\$'000	p.c.	yrs.
1951.....	6,223	3.34	22.3	1953.....	867,567 ²	3.53	22.4
1952.....	5,000	3.30	18.0	1954.....	1,012,231 ²	3.56	21.9
1953.....	15,000	4.27	14.0	1955.....	979,419 ²	3.59	22.2
1954.....	15,000	4.27	14.0	1956.....	1,021,237 ²	3.57	21.6
1955.....	27,000	4.15	16.7	1957.....	1,195,633 ²	3.67	21.1
1956.....	43,000	3.72	18.3	Manitoba—			
1957.....	43,000	3.72	18.3	1951.....	98,446	3.68	19.6
Prince Edward Island—				1952.....	128,409	3.66	18.8
1951.....	15,666	3.09	12.5	1953.....	154,149	3.74	18.2
1952.....	17,500	3.22	12.3	1954.....	161,750	3.77	18.0
1953.....	18,998	3.30	12.5	1955.....	172,560	3.71	17.9
1954.....	19,850	3.33	12.2	1956.....	179,300	3.66	18.2
1955.....	18,650	3.24	12.6	1957.....	178,776	3.71	17.9
1956.....	19,350	3.29	12.7	Saskatchewan—			
1957.....	19,600	3.55	13.6	1951.....	134,594	4.02	19.5
Nova Scotia—				1952.....	135,331	3.87	18.8
1951.....	156,632	3.29	16.8	1953.....	145,351	3.88	19.8
1952.....	172,291	3.33	16.8	1954.....	164,293	3.91	20.0
1953.....	190,871	3.35	17.0	1955.....	177,337	3.76	19.4
1954.....	203,496	3.45	17.1	1956.....	204,566	3.68	19.0
1955.....	208,011	3.47	17.5	1957.....	231,156	3.78	18.8
1956.....	220,636	3.49	18.2	Alberta—			
1957.....	228,035	3.65	18.5	1951.....	88,765	2.86	15.0
New Brunswick—				1952.....	86,270	2.87	15.2
1951.....	165,842 ²	3.48	17.3	1953.....	89,693	2.87	15.5
1952.....	188,868 ²	3.59	17.0	1954.....	81,043	2.87	15.7
1953.....	198,366 ²	3.71	17.4	1955.....	78,320	2.87	16.0
1954.....	202,019	3.78	17.8	1956.....	75,517	2.86	16.2
1955.....	207,655	3.65	17.6	1957.....	72,634	2.85	16.4
1956.....	217,237	3.64	17.7	British Columbia—			
1957.....	237,415	3.74	17.7	1951.....	185,820	3.36	20.0
Quebec—				1952.....	245,266	3.38	20.1
1951.....	420,085 ²	3.39	17.7	1953.....	235,528	3.41	20.7
1952.....	435,885 ²	3.33	18.0	1954.....	222,129	3.37	20.8
1953.....	461,510 ²	3.22	17.0	1955.....	206,174	3.31	21.0
1954.....	479,033 ²	3.37	17.1	1956.....	192,572	3.30	21.8
1955.....	477,083 ²	3.28	16.7	1957.....	181,673	3.33	22.6
1956.....	467,558 ²	3.29	17.3	Totals—			
1957.....	481,734	3.37	17.5	1951.....	1,944,740 ²	3.46	19.3
Ontario—				1952.....	2,209,319 ²	3.47	19.1
1951.....	672,667 ²	3.52	21.9	1953.....	2,371,033 ²	3.47	19.5
1952.....	794,499 ²	3.54	21.1	1954.....	2,560,844 ²	3.53	19.5
				1955.....	2,552,209 ²	3.50	19.5
				1956.....	2,640,973 ²	3.50	19.5
				1957.....	2,569,656 ²	3.59	19.5

¹ As at Oct. 31, 1950.

² Excludes bonds assumed by the province.

30.—Gross Bonded Debt (exclusive of Treasury Bills) of Provincial Governments, by Place of Payment, as at Mar. 31, 1953-57

Payable in—	1953	1954	1955	1956	1957
	\$'000	\$'000	\$'000	\$'000	\$'000
Canada.....	1,522,623	1,623,245	1,683,017	1,766,728	1,952,308
London (England).....	16,643	9,587	9,587	9,587	9,587
London and Canada.....	3,499	2,974	2,974	2,974	2,974
New York (U.S.A.).....	358,255	472,973	452,825	483,325	547,475
New York and Canada.....	297,243	284,614	241,804	221,964	205,921
London, New York, and Canada.....	172,770	167,451	162,002	156,395	151,391
Totals.....	2,371,033 ¹	2,560,844 ¹	2,552,209 ¹	2,640,973 ¹	2,869,656 ¹

¹ Excludes bonds assumed by the provinces.

31.—Provincial Government Direct and Indirect Debt (less Sinking Funds), as at Mar. 31, 1957

Direct and Indirect Debt		Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon	Total
		\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Direct Debt													
Funded Debt—													
Bonded debt.....	43,000	19,600 ¹	228,035	237,415	481,734	1,196,533 ²	178,776	231,156	72,634	181,673	—	—	2,870,556
Less sinking funds.....	4,586	4,062	32,102	31,605	120,632	185,941	46,179	26,727	—	72,329	—	—	550,223
Net bonded debt.....	38,414	15,538	195,933	185,810	355,102	1,010,592	132,597	204,429	72,634	109,344	—	—	2,320,333
Treasury bills ³	—	—	—	—	—	—	14,568	26,608	9,600	19,234	—	—	69,010
Net Funded Debt.....	38,414	15,538	195,933	185,810	355,102	1,010,592	147,165	230,037	82,234	128,578	—	—	2,389,343
Short-term treasury bills⁴													
Savings deposits and certificates.....	—	—	1,448	5,000	4,000	—	17,150	1,500	—	—	—	—	29,098
Temporary loans and overdrafts.....	500	3,280	4,882	217	—	7,057	4,723	—	27	—	—	—	2,842
Accounts and Other Payables—	—	—	—	—	—	—	—	—	—	—	—	—	20,659
Trust funds and other deposits.....	142	1,738	653	653	10,060	60,770	2,163	578	—	—	—	—	89,289
Other.....	1,284	170	4,684	3,422	27,631	78,734 ⁵	1,575	2,482	8,094	20,671	—	79	150,652
Accrued interest and other accrued expenditure.....	206	150	2,221	3,290	4,542	13,202	4,312	2,144	356	1,691	—	—	32,144
Totals, Direct Debt (less Sinking Funds).....	40,416	21,884	210,846	198,392	401,335	1,170,355	177,088	236,940	90,741	164,046	1,984	1,984	2,714,027
Indirect Debt													
Guaranteed bonds or debentures.....	8,992	668	4,894	9,172	480,102	1,123,906	32,808	5,500	2,501	171,555	—	—	1,640,108
Less sinking funds.....	—	—	168	319	3,020	13,248	13	—	—	7,896	—	—	24,664
Net guaranteed bonds or debentures.....	8,992	668	4,726	8,853	477,082	1,110,658	32,795	5,500	2,501	163,659	—	—	1,815,444
Guaranteed bank loans.....	8,588	299	3,533	10,020	177,691	2,465	—	291	2,677	74,275	—	—	103,119
Municipal improvement assistance act loans.....	—	—	339	171	1,060	—	31	220	214	581	—	—	2,009
Other guarantees.....	27,594 ⁷	—	—	—	—	—	4,000	103	—	—	—	—	31,697
Totals, Indirect Debt (less Sinking Funds).....	45,154	970	8,888	19,044	478,533	1,143,123	38,826	6,114	5,392	238,525	—	—	1,952,869
Totals, Direct and Indirect Debt (less Sinking Funds).....	85,570	22,854	219,734	217,436	890,168	2,283,478	213,914	243,054	96,133	402,571	1,984	1,984	4,666,896
Direct debt (less sinking funds) per capita ⁸	\$ 94.87	\$ 221.05	\$ 300.35	\$ 351.14	\$ 84.35	\$ 203.17	\$ 205.92	\$ 269.56	\$ 78.22	\$ 110.32	\$ 165.33	\$ 165.33	\$ 165.50
Indirect debt (less sinking funds) per capita ⁸	\$ 106.00	\$ 9.80	\$ 12.66	\$ 33.71	\$ 100.64	\$ 197.99	\$ 42.82	\$ 6.96	\$ 4.65	\$ 160.41	\$ —	\$ —	\$ 117.72

¹ Includes \$50,000 bonds issued by the Provincial Sanatorium Commission. ² Includes bonds assumed; Ont. \$900,000. ³ Having a term of two or more years. ⁴ Having a term of less than two years. ⁵ Includes \$78,081,000 net liability of the province re Province of Ontario Savings Office. ⁶ Based on estimated population as at June 1, 1957 (see p. 168).

Section 4.—Municipal Public Finance

Subsection 1.—Municipal Assessed Valuations and Taxation

Table 32 shows municipal assessed valuations and total exemptions, by province, for the year 1956; local taxes levied by municipalities and by some school authorities and total taxes outstanding at the end of 1956. Assessment figures in the various provinces are not entirely comparable as there is still variation in methods, schedules and rates, not only between provinces but also between municipalities within the same province.

32.—Municipal Assessed Valuations and Taxation, by Province, 1956

Item	Newfoundland	Prince Edward Island	Nova Scotia	New Brunswick	Quebec
Assessed Valuations					
Taxable Valuations on which Taxes are Levied—					
Real property..... \$'000	..	29,147	458,812	344,096	5,897,377
Personal property..... \$'000	..	6,029	66,458	86,989	...
Business..... \$'000	..	7,277	27,850	22,251	..
Other ¹ \$'000	..	—	15,329	6,230	—
Totals..... \$'000	..	42,453	568,449	459,566	5,897,377
Total exemptions ² \$'000	..	10,116 ³	295,074	..	1,616,726 ⁴
Taxation					
Tax levy..... \$'000	2,650	1,881	24,900	20,790	230,407
Tax Collections, Current and Arrears—					
Total..... \$'000	..	1,732	23,933	20,397	..
Percentage of levy..... p.c.	..	92.1	96.1	98.1	..
Taxes receivable, current and arrears..... \$'000	1,228	576	7,693	7,277	30,337
Property acquired for taxes..... \$'000	—	—	175	76	2,041
Total taxes receivable and property acquired..... \$'000	1,228	576	7,868	7,353	32,378
Percentage of levy..... p.c.	46.3	30.6	31.6	35.4	14.1
	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia
Assessed Valuations					
Taxable Valuations on which Taxes are Levied—					
Real property..... \$'000	6,394,668	823,567	989,530	1,230,703	1,238,390
Personal property..... \$'000	...	6,818	...	47,894	...
Business..... \$'000	801,212	35,903	49,738	56,542	..
Other ¹ \$'000	—	—	29	—	—
Totals..... \$'000	7,195,880	866,288	1,039,297	1,335,139	1,238,390
Total exemptions ² \$'000	1,223,726 ³	156,842 ³	540,736	228,224 ³	396,771 ⁴

For footnotes, see end of table, p. 1080.

32.—Municipal Assessed Valuations and Taxation, by Province, 1956—concluded

Item	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia
Taxation					
Tax levy..... \$'000	385,748	51,853	60,853	72,884	73,156
Tax Collections, Current and Arrears—					
Total..... \$'000	380,230	50,183	60,530	72,383	72,778
Percentage of levy..... p.c.	98.6	96.8	99.5	99.3	99.5
Taxes receivable, current and arrears..... \$'000	40,978	11,427	21,074	19,547	5,166
Property acquired for taxes..... \$'000	3,097	2,597	6,460	9,083	5,397
Total taxes receivable and property acquired..... \$'000	44,075	14,024	27,534	28,630	10,563
Percentage of levy..... p.c.	11.4	27.0	45.2	39.3	14.4

¹ Includes: N.S.—household tax, Halifax; N.B.—occupancy tax, Fredericton and rentals tax, Moncton; Sask.—special franchise. ² Total of valuations assessed but exempt from taxation; excludes exempt property not assessed. ³ Incomplete. ⁴ Excludes permissive exemptions. ⁵ Excludes rural municipalities.

⁶ Excludes partial statutory and permissive exemptions.

Because of the considerable differences in the division of responsibility for services between the provincial governments and their respective municipalities, extreme caution should be exercised in using the figures in Table 32 as a basis for interprovincial comparisons of the relative burden of municipal taxation. Also, in Saskatchewan municipalities are required to levy certain taxes for and on behalf of the provincial government and for other special purposes for which there is no comparable situation in other provinces. The amounts of such taxes excluded in the Saskatchewan municipal levies in Table 32 are as follows:—

Tax	1952	1953	1954	1955	1956
SASKATCHEWAN—	\$	\$	\$	\$	\$
Public revenue.....	1,845,949	...	...	...	...
Hail.....	2,069,074	2,863,832	2,522,027	2,872,218	2,684,147
Telephone.....	814,269	863,634	900,545	904,568	897,318
Drainage.....	11,813	6,794	7,368	7,593	2,834
TOTALS.....	4,741,105	3,734,260	3,429,940	3,784,379	3,584,299

Subsection 2. —Municipal Revenue, Expenditure and Debt

Tables 33, 34 and 35 show comparative totals and details of gross ordinary revenue and expenditure of municipal governments, by province. Table 36 sets out the direct and indirect debt of local governments for the year 1956. The amounts shown include debt incurred by municipalities for general purposes, schools and utilities, as well as debenture debt incurred directly by utilities, school authorities and certain special areas organized to provide specific local services.

33.—Gross Ordinary Revenue and Expenditure of Municipal Governments, by Province, Fiscal Years Ended Nearest Dec. 31, 1956

Province	Gross Ordinary Revenue	Gross Ordinary Expenditure	Province	Gross Ordinary Revenue	Gross Ordinary Expenditure
	\$'000	\$'000		\$'000	\$'000
Newfoundland.....	4,782	4,616	Manitoba.....	66,040	65,758
Prince Edward Island.....	2,248	2,200	Saskatchewan.....	77,173	75,622
Nova Scotia.....	32,507	32,411	Alberta.....	114,040	112,677
New Brunswick.....	27,417	27,204	British Columbia.....	111,142	108,597
Quebec.....	290,289	290,430			
Ontario.....	532,904	527,826	Totals.....	1,258,542	1,247,341

34.—Details of Gross Ordinary Revenue of Municipal Governments, Fiscal Years Ended Nearest Dec. 31, 1956

Source	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Total
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Taxes—											
Municipal Purposes—											
Real property.....	1,450	454	8,976	2,199	77,786	184,321	23,231	25,910	31,937	37,000	393,273
Personal property.....	39	145	2,311	3,397	...	...	3,874	1,303 ²	1,566	...	7,458
Business.....	587	200	1,351	1,373	14,000 ²	23,075 ²	9	815	3,889	2,037	51,689
Poll.....	100	104	827	1,737	2,000 ²	184	...	349	84	111	3,973
Amusement.....	149	...	...	...	33,509	...	...	347	...	...	2,498
Sales.....	239	...	...	...	...	...	...	...	...	...	34,527
Household and tenant.....	...	...	...	...	...	...	...	...	...	...	524
Other.....	17	—	195	329	4,362	...	...	386	...	500	5,364
Special assessments (owners' share) and charges	...	5	150	127	10,260	13,332	3,432	1,388	5,361	3,640	37,745
School purposes.....	...	973	11,090	11,529	88,490	164,836	20,855	30,355	30,047	29,868	338,073
Totals, Taxes.....	2,650	1,881	24,900	20,790	230,407	385,748	51,853	60,853	72,884	73,156	925,122
Licences and permits.....	97	43	317	196	5,071	5,622	1,064	1,452	1,417	4,990	20,269
Interest, tax penalties, etc.....	—	4	308	180	3,311	3,904	893	1,206	1,394	1,289	12,549
Contributions, Grants and Subsidies—											
Governments.....	922	116	2,875	3,826	4,491	76,368	3,711	3,726	22,183	16,179	134,407
Government enterprises.....	135	106	531	425	16,197	4,140	2,268	3,559	4,707	2,778	34,846
Other.....	267	—	248	84	1,414	1,515	462	316	175	556	5,037
Debtenture debt charges recoverable.....	238	45	852	1,113	18,287	23,362	3,060	1,946	4,635	3,166	56,704
Miscellaneous revenue.....	409	53	1,139	572	11,111	23,174	1,908	3,961	6,102	7,460	55,889
Totals, Revenue.....	4,728	2,248	31,170	27,186	290,289	523,893	65,219	77,019	113,497	109,574	1,244,823
Surplus from previous years.....	54	—	1,337	231	—	9,011	821	154	543	1,568	13,719
Grand Totals.....	4,782	2,248	33,507	27,417	290,289	532,904	66,040	77,173	114,040	111,142	1,258,542

¹ Included with real property. Estimated.

35.—Details of Gross Ordinary Expenditure of Municipal Governments, Fiscal Years Ended Nearest Dec. 31, 1956

Function	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B. C.	Total
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
General government.....	570	132	2,398	2,240	23,621	35,129	4,239	5,202	5,970	7,372	86,873
Protection of persons and property.....	228	195	4,057	3,069	35,740	64,108	7,418	4,533	9,816	16,028	145,192
Public works.....	1,242	251	1,942	1,791	38,568	82,564	10,659	14,320	21,910	12,110	185,337
Sanitation and waste removal.....	442	6	751	413	7,557	24,138	2,391	1,970	3,996	3,642	45,306
Health.....	7	11	2,819	1,387	15,967	22,209	2,968	4,515	9,864	3,111	62,558
Social welfare.....	...	16	1,394	973	4,660	23,097	2,482	1,936	2,720	7,453	44,731
Education.....	2	965	9,706	11,495	62,817	138,178	19,448	29,191	23,898	27,508	323,208
Recreation and community services.....	136	61	797	520	9,410	16,303	1,309	2,035	3,103	4,489	38,163
Debt Charges—											
Debenture.....	572	490	6,142	3,436	73,601	87,995	8,836	6,183	20,949	18,024	226,328
Other.....	98	57	670	362	987	6,075	223	430	383	465	9,750
Utilities and other municipal enterprises (deficits and levies).....	203	--	43	288	2,009	4,205	683	238	1,881	1,025	10,575
Provision for reserves.....	11	13	563	377	2,568	3,320	1,252	1,321	654	1,861	11,940
Capital expenditure out of revenue.....	1,024	4	424	164	10,213	10,022	1,817	2,533	4,929	4,218	35,348
Joint or special expenditures.....	—	—	246	—	480	3,638	307	—	382	356	5,409
Miscellaneous expenditures.....	81	19	316	673	2,232	6,007	372	1,213	2,100	933	13,946
Totals, Expenditures.....	4,616	2,200	32,268	27,188	290,430	526,988	64,504	75,620	113,555	108,595	1,244,964
Deficits from previous years.....	—	—	143	16	—	838	1,254	2	122	2	2,377
Grand Totals.....	4,616	2,200	32,411	27,204	290,430	527,826	65,758	75,622	113,677	108,597	1,247,341

36.—Debt of Municipal and School Corporations, as at Fiscal Year-Ends Nearest to Dec. 31, 1956

Direct and Indirect Debt	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Total
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Direct Debt (less Sinking Funds)—											
Debtenture debt.....	11,490	6,335	67,144	68,061	793,147	935,495	106,644	83,661	270,380	303,239	2,645,596
Less sinking funds.....	473	1,299	7,148	6,495	15,678	6,087	17,570	8,331	1,064	33,358	98,403
Net debtenture debt.....	11,017	5,036	59,996	61,566	777,469	929,408	89,074	75,330	268,416	269,881	2,547,193
Temporary loans and bank overdrafts.....	728	814	4,697	5,137	39,813	84,266	7,373	8,075	12,824	3,633	167,360
Accounts payable and other liabilities.....	2,063	258	7,266	3,519	151,101	88,900	7,382	15,567	36,016	14,924	326,996
Totals, Direct Debt (less Sinking Funds).....	13,808	6,108	71,959	70,222	968,383	1,102,574	103,829	98,972	317,256	288,438	3,011,519
Indirect Debt (less Sinking Funds)—											
Guaranteed bonds or debentures.....	—	—	1,134	3,591	—	8,083	1,192	—	299	16	14,315
Less sinking funds.....	—	—	280	—	—	95	—	—	—	16	391
Net guaranteed bonds or debentures.....	—	—	854	3,591	—	7,988	1,192	—	299	—	13,924
Guaranteed bank loans.....	—	—	—	—	228	—	—	—	—	—	228
Totals, Indirect Debt (less Sinking Funds).....	—	—	854	3,591	228	7,988	1,192	—	299	—	14,152
Grand Totals.....	13,808	6,108	72,813	73,813	968,611	1,110,562	105,021	98,972	317,555	288,438	3,055,701

CHAPTER XXIII.—NATIONAL ACCOUNTS AND CANADA'S INTERNATIONAL INVESTMENT POSITION

CONSPECTUS

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NOTE.—The interpretation of the symbols used in the tables throughout the Year Book will be found facing p. 1 of this volume.

Section 1.—National Accounts*

The national accounts constitute a set of accounting summaries for the nation as a whole and portray economic activity in terms of transactions taking place between different sections of the economy. By combining and summarizing these operations into their various classes, information may be obtained on the functioning of the economy which is of particular interest to governments concerned with problems of full employment, taxation and prices, and to businessmen concerned with programs of investment and marketing.

This measurement of the nation's output is in terms of established market prices; hence it is necessary to keep in mind that the value of the nation's production may change because of price variations as well as through increase or decrease in volume of output.

Data are available showing volume changes in gross national expenditure in addition to the value figures. Gross national expenditure is shown in Table 3 in constant dollars (i.e., in terms of 1949 prices). Because the gross national expenditure equals the gross national product, these data also reflect volume changes in the production of goods and services as measured by the gross national product. For all other tables the data are expressed in current dollars so that year-to-year changes must be considered in relation to price changes over the period.

National accounts calculated on a quarterly basis are a logical extension of the annual national accounts and have been published since 1953. However, their preparation on a reliable and analytically useful basis is rather more difficult because of the scarcity of quarterly data, special problems arising from the measurement of farm production and problems in connection with seasonal variation.

The tables in this Section cover the more important aspects of the national income analysis in annual terms. Tables 1 and 2 show the main aggregates of national income, gross national product, gross national expenditure and their components; other tables are included to show the source and disposition of personal income, government revenue and expenditure and personal expenditure on consumer goods and services.

National Income.—Net national income at factor cost measures the current earnings of Canadian factors of production (i.e., land, labour, capital) from productive activity. It includes wages and salaries, profits, interest, net rent and net income of farm and non-farm unincorporated business.

* Prepared in the Research and Development Division, Dominion Bureau of Statistics.

Gross National Product.—Gross national product, by totalling all costs arising in production, measures the market value of all final goods and services produced in the current period by Canadian factors of production. It is equal to national income plus net indirect taxes (indirect taxes less subsidies), plus capital consumption allowances and miscellaneous valuation adjustments.

Personal Income.—Personal income is the sum of current receipts of income whether or not these receipts represent earnings from production. It includes transfer payments from government such as family allowances, unemployment insurance benefits, and war service gratuities, in addition to wages and salaries, net income of unincorporated business, interest and dividends and net rental income of persons. It does not include undistributed profits of corporations and other elements of the national income not paid out to persons.

Gross National Expenditure.—Gross national expenditure measures the same aggregate as gross national product, namely, total production of final goods and services at market prices, by tracing the disposition of production through final sales to persons, to governments, to business on capital account (including changes in inventories) and to non-residents (exports). Imports of goods and services, including net payments of interest and dividends to non-residents, are deducted since the purpose is to measure only Canadian production.

Economic Activity in 1957 and 1958.—The year 1957 was characterized by a levelling-out in economic activity, in strong contrast to the vigorous expansion of the two previous years. Gross national product rose to \$31,773,000,000, slightly more than 4 p.c. higher than in 1956, but almost all of this increase was accounted for by higher prices. In real terms, therefore, the gross national product in 1957 remained at virtually the level of the preceding year after having risen by 9 p.c. in 1955 and 7 p.c. in 1956. The unchanged aggregate reflected a sharp reduction in the grain crop, amounting to about 1 p.c. of the gross national product, and a corresponding expansion in non-farm output.

Three factors acted to impede the expansion of economic activity in 1957. Business fixed capital formation continued its upward trend by increasing 9 p.c. in value terms, but the rate of growth was well below the exceptionally high rate of the previous year. The strength in the investment sector was almost entirely concentrated in non-residential construction; expenditures for machinery and equipment were only about 3 p.c. higher; the declining trend in housing was reversed in the course of the year, but expenditures for residential construction for the year as a whole were considerably lower than in 1956. At the same time, the accumulation of business inventories, which had been a powerful stimulus to economic activity in 1956, came to a halt and during the last quarter of 1957 final demand was being met in part out of stocks, to the detriment of current production. Unlike 1956, no expansionary influence came from exports of goods and services; in 1957 they did little more than maintain the level of the preceding year.

In 1958 a gradual resumption of the upward trend in the gross national product was evident and by the final quarter of the year there was a sharp rise in consumer expenditure, a strong advance in exports of goods and services and a cessation in the rate of business inventory liquidation. However, the year as a whole was affected by the previous year's heavy inventory liquidation and by the decrease in business spending for new plant and equipment so that the gross national product advanced only 2.3 p.c. over 1957 and again the increase was mainly accounted for by higher prices. The physical volume of non-farm production remained unchanged but farm production was slightly higher; the increase in volume terms for 1958 was therefore less than 1 p.c.

Personal expenditure and government expenditure rose in 1957 at rates not substantially lower than in the previous year in terms of current dollars. At the same time, the impact of the easing pressure of demand fell to a large extent on external rather than domestic sources of supply; imports of goods and services were only a little higher, in contrast to the sharply rising trend of the two preceding years. In 1958 the rates of increase in personal and government expenditure, in terms of current dollars, moved slightly upward.

Consumer expenditure on goods and services, after little change in the first half of the year, rose sharply in the fourth quarter. Exports followed the same trend and the developing strength in these demand categories had their effect on imports—in the last half of the year the downtrend that had been under way since early in 1957 was reversed.

National income moved upward by 3.5 p.c. in 1957. The major changes compared with the previous year were: a substantial fall in corporate profits, a sharp decline in farm income reflecting the smaller crop, and a lower rate of increase in labour income. Personal income rose by nearly 5.5 p.c.—significantly more than national income—caused by a sharp advance in transfer payments from governments as a result of legislative changes in social security and other benefits and a larger volume of unemployment. In 1958, national income rose a further 3 p.c. and personal income rose 6 p.c. The difference in these rates of increase was again attributed to an advance in transfer payments from governments, which amounted to 27 p.c. On the whole, the 1958 trend for most of the national income components was uniformly upward, the major exception occurring in the case of corporation profits. But here too the downturn in evidence since early 1956 was reversed during the course of the year.

Production, Employment and Prices.—The unchanged physical volume of production in 1957 compared with 1956 was the outcome of mixed and offsetting trends in the various industry groups. The drop in farm output coincided with lower output in two other primary industries, forestry and fishing. In general, the gains in production occurred in the service-producing industries. In manufacturing the losses were largely concentrated in the durable lines. The output of the construction industry rose, as did* that of mining where gains in certain new products more than offset losses in some traditional minerals. Despite the lack of growth in production, the number of persons with jobs was significantly higher in 1957 than in 1956, but the growth of the labour force was unusually large, partly because of the recent high level of immigration, and the number of persons without jobs and seeking work rose from 3.1 p.c. of the labour force in 1956 to 4.3 p.c. in 1957. Prices of final products continued upward throughout 1957 and for the year as a whole advanced about 4 p.c. above 1956. The pressure on prices was most pronounced in the services component of personal expenditure and in the machinery and equipment component of gross fixed capital formation. At the same time, wholesale prices eased slightly during the year as the fall in prices of raw and partly manufactured goods and industrial materials a little more than offset the continued advance in prices of fully and chiefly manufactured goods.

The 1957 trend in production and employment continued in 1958. The volume of output rose by less than 1 p.c. during the year. Although agricultural production was up substantially as a result of greater output and exports of livestock and higher domestic prices, mineral production remained almost unchanged and forestry was down about 10 p.c. Manufacturing production was down by nearly 4 p.c. and most of the decline again occurred in the durable goods group of industries. On the other hand, all service-producing industries continued to advance with the exception of transportation, communications and storage, the latter being affected by the reduced scale of operations in the commodity-producing industries and the lower volume of imports. The number of persons with jobs in 1958 averaged 0.4 p.c. lower than in 1957, though the number with jobs in the non-agricultural sector was up by 0.2 p.c. With the growth in the labour force and the decline in the total number of persons with jobs, the number of persons without jobs and seeking work advanced to 6.6 p.c. of the labour force. Price factors were less conspicuous as an element of the value change in gross national product between 1958 and 1957 than in the preceding year. Almost all components registered smaller price advances in 1958 than in 1957. On the whole, prices advanced by about 2 p.c., the greater part of the increase being in the area of consumer services and non-durable goods.

Components of Gross National Expenditure.—Personal expenditure on consumer goods and services rose nearly 6 p.c. in 1957 and by more than 5 p.c. in 1958, fairly closely in line with the rises in personal income. In 1957 most of the advance in spending

was in non-durable goods and services and, whereas in 1956 the greater part of the substantial advance in consumer spending represented a gain in real consumption, in 1957 higher prices accounted for most of the increase. The increase in 1958, however, was fairly well distributed over the three main categories of consumer spending, services receiving more than 6 p.c., non-durables about 5 p.c. and durables about 3 p.c. In that year, higher prices and increased real consumption were equally important in accounting for the advance in total spending.

Government expenditure on goods and services rose approximately 7 p.c. in both years, with most of the increase at the provincial and municipal levels. At the federal level, declines in defence expenditure were approximately offset by increases in expenditure for other purposes.

In 1955 and 1956 high and rising foreign and domestic demand for the products of Canada's resource-based industries had encouraged an upthrust of investment in plant and equipment. At the same time, very large construction projects were under way, the most conspicuous being the St. Lawrence Seaway and the Trans-Canada Pipeline. New projects launched in 1957, together with continuing work on those already in progress, raised expenditure on non-residential construction to \$3,233,000,000, about 25 p.c. higher than in 1956 which in turn had been 40 p.c. higher than in 1955. Thus, non-residential construction stood out as the most important single source of strength in the economy in 1957. By contrast, expenditures on new machinery and equipment were only about 3 p.c. above those of 1956, when they had risen 34 p.c. above the level of the preceding year.

Expenditure on new residential construction in 1957 was nearly 7 p.c. lower than in 1956. However, in response to easier conditions in mortgage markets and an improved supply of labour and materials, housing starts, which had been falling in 1956, made a strong recovery during the course of 1957 and continued high throughout 1958 with the result that expenditure on residential construction established new records in the latter year, reaching an estimated \$1,762,000,000. On the other hand business expenditure for plant and equipment dropped to a figure 13 p.c. lower than in 1957 and the distribution of investment by industry was strikingly altered. Outlays for financial services and for institutions rose sharply but all other industries except agriculture curtailed their investment in varying degrees. On the whole, business gross fixed capital formation, estimated at \$6,899,000,000 in 1958, fell about 6 p.c. from the level of 1957 following three years of impressive increases.

Total holdings of inventories were reduced in 1958 by about \$400,000,000 in contrast to the year 1957 when a moderate build-up of inventories occurred. The turnaround reflected mainly a shift in the position of business inventories from accumulation to liquidation, but farm inventories and grain in commercial channels also contributed to the lowering of stocks in 1958. The liquidation of \$276,000,000 in business stocks, which represented a turnaround of almost \$600,000,000 from 1957 and was the largest annual decline in the postwar period, was concentrated mainly in the manufacturing industries and was most pronounced in iron and steel products and in the transportation equipment industries. Trade inventories showed, on balance, a slight accumulation in 1958, resulting from the continued build-up of stocks in retail food stores.

Exports of goods and services in 1957 were only fractionally higher than in 1956. International markets for some primary commodities weakened during the course of the year and thus the value of exports of copper, lead and zinc products—prices of these products having fallen considerably—was down 16 p.c.; markets for lumber and wood pulp also deteriorated. Sales of wheat and other grains were sharply reduced but there was a more

than fourfold increase in exports of cattle. Canada's enlarged capacity to supply new resource products, notably uranium and petroleum, helped to maintain export totals, as did substantial increases in sales of such traditional export products as nickel and asbestos. The general trends developed in 1957 were accentuated in 1958. Two new resource products, uranium and natural gas, made heavy contributions to export totals, their value rising by about \$165,000,000. The export value of wheat and flour, cattle and aircraft also rose sharply but decreases occurred in many traditional exports as well as in some of the new resource products. The first category included pulp and paper, copper, nickel, lead, zinc and asbestos, and the second included petroleum and iron ore.

Imports of goods and services in 1957 also were only slightly above the level of 1956 in contrast with the impressive increases of the two preceding years. This stability in imports was related to the levelling-off in investment in machinery and equipment and the sharply reduced rate of investment in business inventories; imports of investment goods were down 1.5 p.c. in 1957 in contrast with a rise of more than 30 p.c. in 1956 and imports of industrial materials were down 5 p.c. as compared with a 20-p.c. increase in 1956. The downward trend of imports became more pronounced in 1958, dropping 6 p.c. below the 1957 total. The bulk of this decline was again concentrated in those groups where imports had risen very sharply during the period of rapidly rising investment in plant and equipment in 1955 and 1956, particularly metal products. At the same time, imports of many consumer goods remained at about the level of 1957. However, by mid-1958 the downtrend of imports of goods and services levelled off and then began to rise and in the fourth quarter of the year the advance was particularly sharp.

After a slight increase in 1957 over 1956, the over-all deficit on current account showed a drop of 24 p.c. in 1958.

Components of National Income.—Labour income rose 7.3 p.c. in 1957 and another 3 p.c. in 1958. The major part of this advance was accounted for by higher wage rates. Almost all industrial groups shared the 1957 increase, forestry being the major exception, and the gains were most pronounced in the service-producing industries. In 1958 forestry again suffered a sharp reduction reflecting the much reduced level of employment in the industry, and lesser declines in mining and manufacturing were related in part to the incidence of industrial disputes in these industries. Labour income in all the service-producing industries, except transportation, again increased in 1958 reflecting generally expanded employment as well as further advances in earnings.

The accrued net income of farm operators from farm operations fell \$500,000,000 to \$968,000,000 in 1957 as compared with 1956, largely because of the much smaller crop in the Prairie Provinces. However, although there was little change in crop production, larger output and higher prices for livestock and animal products brought the 1958 total up to an estimated \$1,200,000,000. Income of unincorporated business which had remained approximately the same in 1957 as in 1956, rose 5 p.c. in 1958. The largest gains occurred in construction and fishing but retail trade and the service groups also advanced.

Corporation profits, sensitive as always to changes in the pressure of demand, fell by 10.5 p.c. in 1957 and by 3 p.c. in 1958. The trend of corporate earnings by industry mirrored the mingled elements of weakness and strength present in the economy in 1958. The sharpest drop in profits—21 p.c.—occurred in mining, quarrying and oil wells. Profits in manufacturing fell 8 p.c., the major declines being in iron and steel, petroleum and coal and electrical apparatus and supplies. Certain other manufacturing industries had higher earnings, notably foods and beverages, wood and paper products and chemicals. In general, the service-connected industries earned somewhat higher profits in 1958.

1.—National Income and Gross National Product, 1954-58

NOTE.—Comparable figures for the years 1939, 1944, 1946, 1950 and 1953 are given in the 1957-58 Year Book, p. 1122.

(Millions of dollars)

Item	1954	1955 ^a	1956 ^a	1957	1958
Wages, salaries, and supplementary labour income.....	12,432	13,223	14,890	15,996	16,434
Military pay and allowances.....	367	394	424	476	491
Corporation profits before taxes ¹	1,963	2,570	2,908	2,547	2,475
Rent, interest, and miscellaneous investment income.....	1,511	1,684	1,767	1,905	2,026
Accrued net income of farm operators from farm production ²	1,017	1,264	1,450	996	1,157
Net income of non-farm unincorporated business ²	1,656	1,791	1,965	2,011	2,119
Inventory valuation adjustment.....	86	-189	-238	-71	-29
Net National Income at Factor Cost.....	19,032	20,737	23,166	23,860	24,673
Indirect taxes less subsidies.....	2,947	3,237	3,636	3,848	3,858
Capital consumption allowances and miscellaneous valuation adjustments.....	2,905	3,266	3,642	3,994	3,923
Residual error of estimate.....	-13	-108	141	71	55
Gross National Product at Market Prices.....	24,871	27,132	30,585	31,773	32,509

¹ Excludes dividends paid to non-residents.
net income of independent professional practitioners.

² Includes changes in farm inventories.

³ Includes

2.—Gross National Expenditure, 1954-58

NOTE.—Comparable figures for the years 1939, 1944, 1946, 1950 and 1953 are given in the 1957-58 Year Book, p. 1124.

(Millions of dollars)

Item	1954	1955 ^a	1956 ^a	1957	1958
Personal expenditure on consumer goods and services.....	16,175	17,389	18,833	19,964	21,012
Government expenditure on goods and services.....	4,461	4,792	5,386	5,738	6,150
Current expenditure.....	5,619	3,768	4,186	4,866	4,632
Gross fixed capital formation.....	942	1,034	1,260	1,338	1,618
Business gross fixed capital formation.....	4,779	5,210	6,774	7,335	6,899
New residential construction.....	1,227	1,878	1,586	1,409	1,762
New non-residential construction.....	1,671	1,848	2,589	3,103	2,813
New machinery and equipment.....	1,881	1,984	2,659	2,823	2,324
Value of physical change in inventories.....	-130	311	1,084	210	-424
Non-farm business inventories.....	-40	153	808	311	-276
Farm inventories and grain in commercial channels.....	-90	178	276	-101	-148
Exports of goods and services.....	5,147	5,764	6,365	6,394	6,289
Deduct: Imports of goods and services.....	-5,574	-6,443	-7,715	-7,796	-7,361
Residual error of estimate.....	13	109	-142	-72	-56
Gross National Expenditure at Market Prices.....	24,871	27,132	30,585	31,773	32,509

3.—Gross National Expenditure in Constant (1949) Dollars, 1954-58

NOTE.—Comparable figures for the years 1939, 1944, 1946, 1950 and 1953 are given in the 1957-58 Year Book, p. 1124.

(Millions of dollars)

Item	1954	1955 ^a	1956 ^a	1957	1958
Personal expenditure on consumer goods and services.....	13,650	14,662	15,603	15,984	16,403
Government expenditure on goods and services.....	3,415	3,563	3,794	3,832	3,977
Current expenditure.....	2,676	2,767	2,869	2,866	2,935
Gross fixed capital formation.....	739	796	925	966	1,042
Business gross fixed capital formation.....	3,723	3,962	4,891	5,085	4,686
New residential construction.....	946	1,040	1,110	997	1,219
New non-residential construction.....	1,872	1,365	1,816	2,107	1,877
New machinery and equipment.....	1,505	1,557	1,965	1,981	1,590
Change in inventories.....	-216	419	955	138	-366
Non-farm business inventories.....	-39	134	643	270	-132
Farm inventories and grain in commercial channels.....	-177	285	307	-132	-134
Exports of goods and services.....	4,616	4,969	5,340	5,360	5,408
Deduct: Imports of goods and services.....	-5,013	-5,742	-6,662	-6,596	-6,207
Residual error of estimate.....	11	87	-110	-54	-41
Gross National Expenditure in Constant (1949) Dollars.....	20,186	21,920	23,811	23,749	23,860
Index of gross national expenditure (1949=100).....	123.5	134.1	145.7	145.3	146.0

4.—Sources of Personal Income, 1954-53

NOTE.—Comparable figures for the years 1939, 1944, 1946, 1950 and 1953 are given in the 1957-58 Year Book, p. 1125.

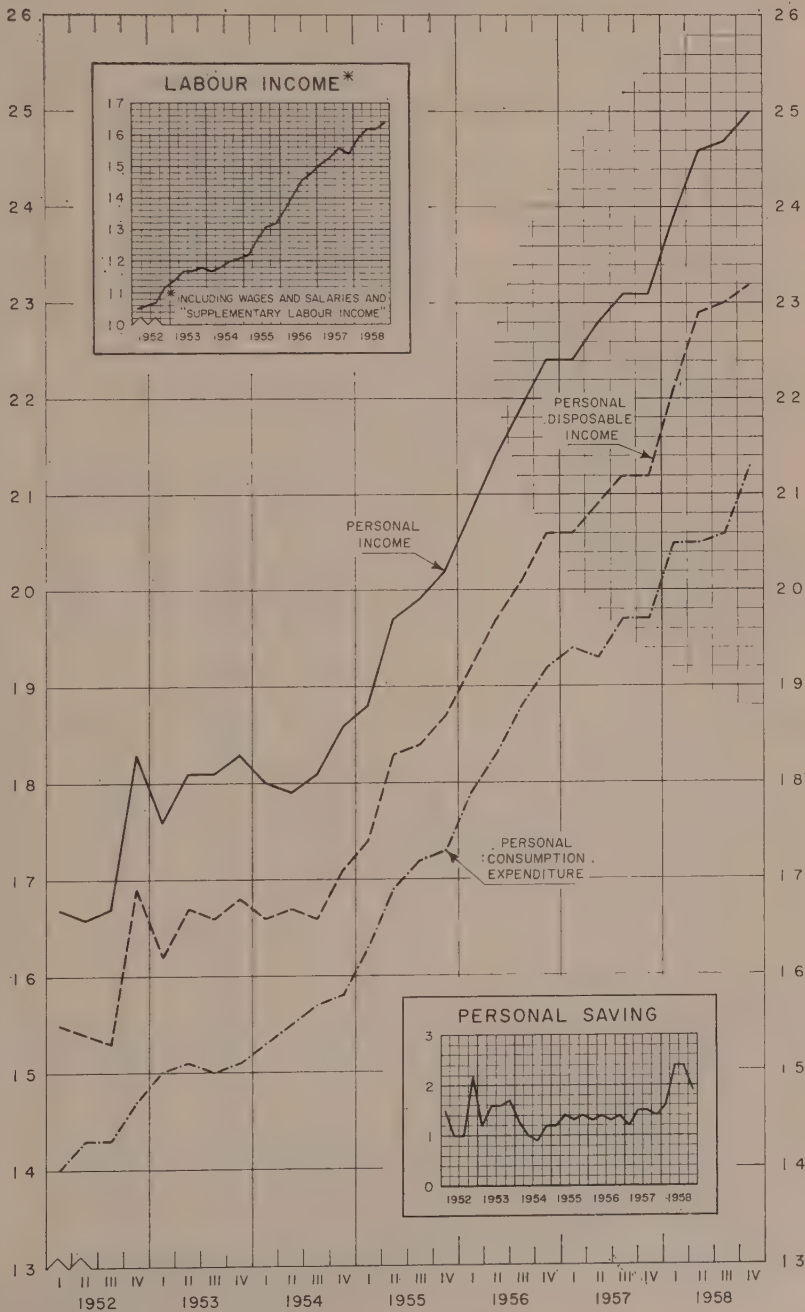
(Millions of dollars)

Item	1954	1955 ^a	1956 ^a	1957	1958
Wages, salaries and supplementary labour income.....	12,432	13,223	14,890	15,996	16,434
Deduct: Employer and employee contributions to social insurance and government pension funds.....	-422	-476	-532	-589	-619
Military pay and allowances.....	367	394	424	476	491
Net income received by farm operators from farm production	1,009	1,200	1,430	1,002	1,161
Net income of non-farm unincorporated business.....	1,656	1,791	1,965	2,011	2,119
Interest, dividends and net rental income of persons.....	1,719	1,840	1,908	2,013	2,129
Transfer Payments (excluding interest)—					
From governments.....	1,634	1,737	1,766	2,079	2,640
Charitable contributions from corporations.....	26	29	34	36	36
Totals, Personal Income.....	18,421	19,738	21,885	23,021	24,391

PERSONAL INCOME, 1952-58

(SEASONALLY ADJUSTED AT ANNUAL RATE)

BILLION DOLLARS



5.—Disposition of Personal Income, 1954-58

NOTE.—Comparable figures for the years 1939, 1944, 1946, 1950 and 1953 are given in the 1957-58 Year Book, p. 1125.

(Millions of dollars)

Item	1954	1955 ^r	1956 ^r	1957	1958
Personal Direct Taxes—					
Income taxes.....	1,296	1,297	1,496	1,693	1,553
Succession duties.....	78	127	146	126	126
Miscellaneous taxes.....	63	75	90	98	112
Purchases of goods and services.....	16,175	17,389	18,833	19,964	21,012
Personal net savings.....	809	850	1,320	1,143	1,588
Totals, Personal Income.....	18,421	19,738	21,885	23,024	24,391

6.—Personal Expenditure on Consumer Goods and Services, 1954-58

NOTE.—Comparable figures for the years 1939, 1944, 1946, 1950 and 1953 are given in the 1957-58 Year Book, p. 1126.

(Millions of dollars)

Item	1954	1955 ^r	1956 ^r	1957	1958
Foods.....	4,030	4,236	4,571	4,920	5,167
Tobacco and alcoholic beverages.....	1,114	1,181	1,278	1,370	1,424
Clothing and personal furnishings.....	1,826	1,900	2,037	2,099	2,159
Shelter.....	2,192	2,454	2,621	2,871	3,090
Household operation.....	2,104	2,272	2,509	2,585	2,704
Transportation.....	1,800	2,023	2,211	2,339	2,444
Personal and medical care and death expenses.....	1,091	1,166	1,316	1,430	1,526
Miscellaneous.....	2,018	2,157	2,290	2,350	2,498
Totals.....	16,175	17,389	18,833	19,964	21,012
Durable goods.....	1,970	2,245	2,431	2,431	2,499
Non-durable goods.....	8,373	9,065	9,736	10,357	10,860
Services.....	5,832	6,079	6,666	7,176	7,653

7.—Federal, Provincial and Municipal Government Revenue and Expenditure, 1954-58

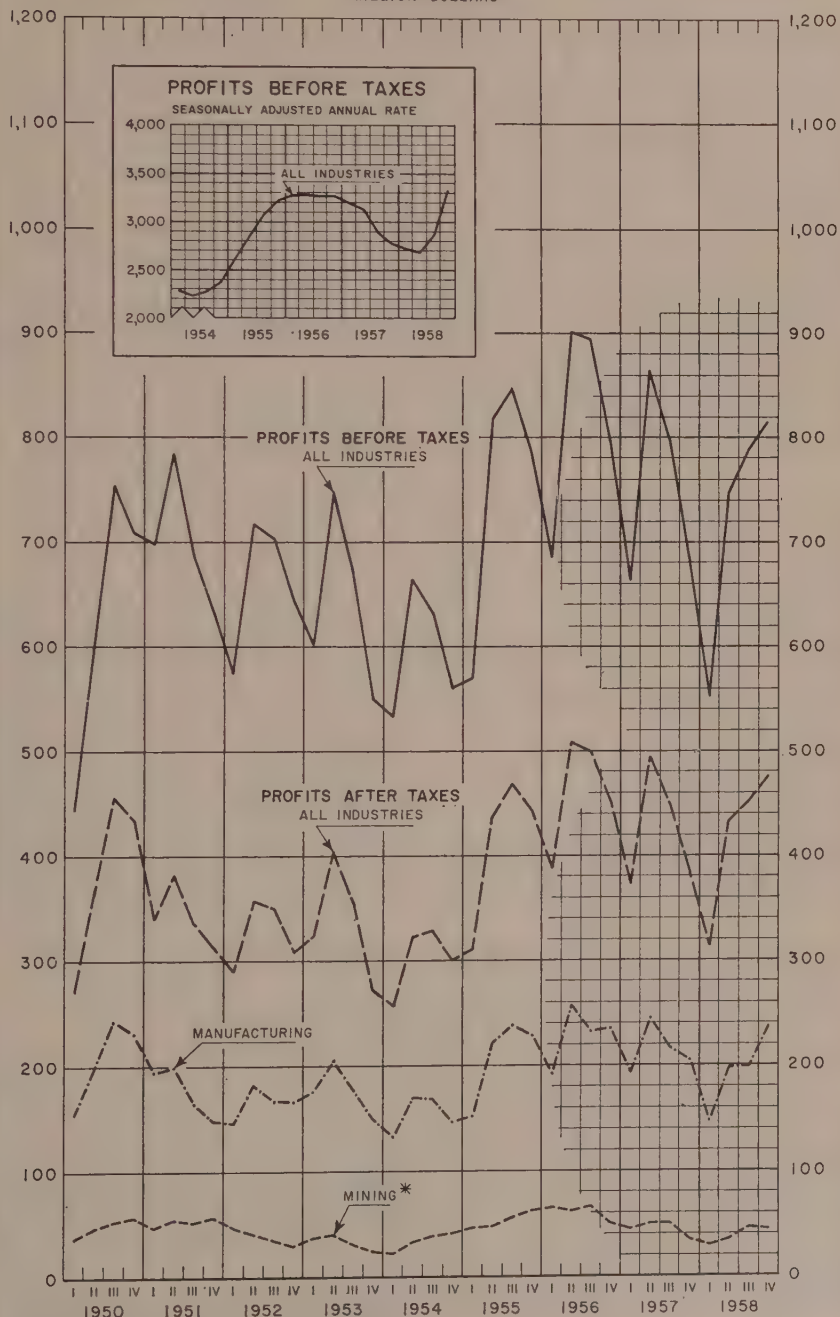
NOTE.—Comparable figures for the years 1939, 1944, 1946, 1950 and 1953 are given in the 1957-58 Year Book, p. 1126.

(Millions of dollars)

Item	1954	1955 ^r	1956 ^r	1957	1958
Revenue					
Direct Taxes: Persons—					
Income taxes.....	1,296	1,297	1,496	1,693	1,553
Succession duties.....	78	127	146	126	126
Miscellaneous taxes.....	63	75	90	98	112
Direct taxes: corporations.....	1,082	1,272	1,413	1,326	1,280
Withholding taxes.....	58	67	69	83	48
Indirect taxes.....	3,033	3,319	3,759	3,964	3,998
Investment Income—					
Interest.....	237	238	258	294	340
Profits of government business enterprises.....	450	515	576	571	606
Employer and employee contributions to social insurance and government pension funds.....	422	476	532	589	619
Totals, Revenue.....	6,719	7,386	8,339	8,744	8,682

CORPORATION PROFITS, 1950-58

MILLION DOLLARS



* INCLUDES QUARRYING AND OIL WELLS

7.—Federal, Provincial and Municipal Government Revenue and Expenditure, 1954-58—concluded

Item	1954	1955 ^c	1956 ^c	1957	1958
Expenditure					
Purchase of goods and services.....	4,461	4,792	5,386	5,738	6,150
Transfer Payments—					
Interest.....	669	669	714	741	787
Other.....	1,634	1,737	1,766	2,079	2,640
Subsidies.....	86	82	123	116	140
Surplus or deficit (on transactions relating to the National Accounts).....	-131	106	350	70	-1,035
Totals, Expenditure.....	6,719	7,386	8,339	8,744	8,682

8.—Analysis of Corporation Profits, 1954-58

NOTE.—Comparable figures for the years 1939, 1944, 1946, 1950 and 1953 are given in the 1957-58 Year Book, p. 1127.

(Millions of dollars)

Item	1954	1955 ^c	1956 ^c	1957	1958
Corporation profits before taxes.....	1,963	2,570	2,908	2,547	2,475
Dividends paid to non-residents.....	327	395	437	480	455
Corporation profits including dividends paid to non-residents	2,290	2,965	3,345	3,027	2,930
<i>Deduct:</i> Corporation income tax liabilities.....	-1,082	-1,272	-1,413	-1,326	-1,280
Excess of tax liabilities over collections.....	-94	163	40	-225	-53
Tax collections.....	1,176	1,109	1,573	1,551	1,333
Corporation profits after taxes.....	1,208	1,693	1,932	1,701	1,650
<i>Deduct:</i> Dividends paid to non-residents.....	-327	-395	-437	-480	-455
Corporation profits retained in Canada.....	881	1,298	1,495	1,221	1,195
<i>Deduct:</i> Dividends paid to Canadian persons.....	-284	-307	-330	-315	-310
<i>Deduct:</i> Charitable contributions from corporations.....	-26	-29	-34	-36	-36
Undistributed Corporation Profits.....	571	962	1,131	870	849

9.—Corporation Profits before Taxes (including Dividends Paid to Non-residents), by Industry, 1956-58

NOTE.—Comparable figures for the years 1954 and 1955 are given in the 1957-58 Year Book, p. 1127.

(Millions of dollars)

Industry	1956 ^c	1957	1958	Industry	1956 ^c	1957	1958
Agriculture.....	16	4	—	Electric power, gas and water utilities.....	60	63	69
Forestry.....				Wholesale trade.....	295	267	251
Fishing and trapping.....				Retail trade.....	213	205	218
Mining, quarrying and oil wells.....	382	329	259	Finance, insurance and real estate.....	318	275	327
Manufacturing.....	1,646	1,474	1,860	Service.....	69	76	76
Construction.....	106	129	151				
Transportation.....	177	148	180				
Storage.....	15	10	10				
Communications.....	48	47	49				
				Totals.....	3,345	3,027	2,930

Section 2.—Canada's International Investment Position*

Canada is by far the world's largest importer of private long-term capital, and the tremendous capital formation which has been a feature of the 1950's has been associated with an unprecedented growth in the country's external liabilities. These investments have contributed to a rapid rate of growth in the Canadian economy, particularly in the exploitation of natural resources, and have added significantly to Canadian production, employment and income. At the same time they have added substantially to the burden of Canada's external debt and to the proportion of Canadian industry controlled by non-residents.

Canada's gross external liabilities other than short-term commercial indebtedness amounted to \$18,500,000,000 at the end of 1957. (Short-term commercial debts at that time were of the order of \$1,000,000,000.) By the end of 1958 the total of these liabilities had risen by at least \$1,000,000,000. Non-resident-owned long-term investments in Canada by the end of 1957 had reached a book value of \$17,100,000,000, having more than doubled in the eight years since 1949, and the part of these investments in establishments controlled outside Canada totalled \$9,800,000,000. These foreign direct investments have been growing even more rapidly than the total and have more than doubled in the six years since 1951. Increases in other Canadian equities, although smaller, have also been substantial and there have been more moderate increases in foreign holdings of Canadian bonds and debentures.

Investments of non-resident capital have been closely related to the high rate of growth in Canada. Large development projects have been initiated and financed by investors from other countries and the growth effects from this investment have, in turn, led to Canadian borrowing in capital markets outside of Canada. While capital inflows have been the principal source of the increased indebtedness abroad, another substantial contributor has been the earnings from non-resident-controlled branches and subsidiaries which were retained in Canada. New resource industries depending to a large extent on non-resident financing include all branches of the petroleum industry, iron ore and other mining, aluminum, nickel, pulp and paper, and chemical industries. In addition, secondary industry has also benefited from non-resident investment.

Canada's gross external assets (other than short-term commercial receivables) totalled about \$7,600,000,000 at the end of 1957 and have increased moderately since that time. (Short-term commercial receivables at the end of 1957 were around \$500,000,000.) Government-owned assets made up a substantial part of the total. Taking into account short-term commercial balances, Canada's net balance of international indebtedness at the end of 1957 is estimated to have been \$11,500,000,000, and to have grown by more than \$1,000,000,000 in 1958. At this level it is well over twice the figure for 1953 and three times the figure for 1949.

Foreign Investments in Canada.—Dependence upon external sources of capital for financing in earlier periods of heavy investment activity has been characteristic of Canadian development. During the exceptional growth period that occurred before World War I the rate of increase in non-resident investment was very high and dependency upon external sources of capital was greater than in later periods. Total non-resident investments in Canada increased from an estimated \$1,232,000,000 in 1900 to \$3,837,000,000 by 1914, mainly in the form of bonded debt for railway and other expansion guaranteed by the Canadian Government. This was the period when the principal external source of capital was London, and by 1914 British investments in Canada, estimated at \$2,778,000,000, were at about their highest level. By the same date, United States investments, although they had been increasing rapidly, had only about one-third of the value of British-owned investments.

* Prepared in the Balance of Payments Section, International Trade Division, Dominion Bureau of Statistics. A more extended review appears in DBS report *Canada's International Investment Position, 1926 to 1954* and more recent statistics in the annual report *The Canadian Balance of International Payments and International Investment Position* for each of the years 1955, 1956 and 1957.

During the first part of the inter-war period the United States became the principal source of external capital, and by 1926 the United States-owned portion of Canada's international debt exceeded that owned in the United Kingdom which had not increased since 1914. Growth in United States investments in Canada continued for some years but was interrupted in the 1930's when the total was reduced by repatriations of securities and other withdrawals of capital. Increases began again in the 1940's and by the end of World War II, United States investments of \$4,990,000,000 compared with British investments of \$1,750,000,000. The latter had been reduced by wartime repatriation measures and the proceeds were used in financing British expenditures in Canada. Following the War, up to 1948, some further declines occurred in British investments in Canada but since then they have increased.

United States investments have risen each year since the end of the Second World War, particularly since 1947 when the period of intense activity in the petroleum industry got under way following new discoveries. More than half the growth in United States investment in Canada has occurred since 1950. At \$12,900,000,000, United States investments in 1957 continued to represent more than three-quarters of all non-resident investments in Canada and also made up a similar ratio of the increase since 1950. The main rise occurred in direct investments in companies controlled in the United States, which are prominent in many branches of Canadian industry. By 1957 these had increased to two and one-half times their value in 1950. In the same period portfolio investments in Canada owned in the United States rose by about one-half. A considerable part of this latter rise occurred in 1956 and 1957 when large sales of new issues of securities were made in that country.

British investments in Canada totalled \$2,915,000,000 by the end of 1957, having during the year overtaken in value the levels reached at the end of the First World War and again in the early 1930's. But these investments accounted for only 17 p.c. of the total non-resident investments in Canada compared with 36 p.c. at the end of 1939 before most of the wartime repatriations. The rise in British investments in Canada from the low point in 1948 was more than \$1,300,000,000 up to 1957, particularly concentrated in direct investments which have nearly tripled since then and which now represent a much larger portion of the total than in the prewar period. In absolute terms, this rise in total British investments in Canada is more than the rise in investments by all other overseas countries in the same period, although the rate of increase has been lower.

Investments of countries other than the United States and the United Kingdom reached a record total of \$1,285,000,000 at the end of 1957. Being well over three times the corresponding 1950 figure, this represents a much higher rate of increase than has occurred in either United States or British investments and large increases have taken place in portfolio holdings of securities as well as in direct investments. At 7 p.c. of the total, this group of countries, mostly in Western Europe, makes up a larger portion of total investments than ever before. About 90 p.c. of the direct investments, which totalled \$325,000,000 in 1955, also came from Western Europe; more than one-third was of Belgian origin with French and Swiss making up the next largest groups. Since then, German direct investments have risen significantly.

The degree of dependence upon non-resident capital for financing Canadian investment has been relatively much less in the postwar period than in the earlier periods of exceptional expansion, even though the rise in non-resident investments has been so great. Thus, from 1950 to 1955 the net use of foreign resources amounted to about one-fifth of net capital formation in Canada, and direct foreign financing amounted to about one-third. But in 1956 and 1957 when these ratios had increased considerably to about one-third and two-fifths, respectively, they were still less than the corresponding ratios in the short period 1929 to 1930 when inter-war investment activity was at its highest point. In that period more than one-half of net capital formation was financed from outside of Canada, and in the period of heavy investment before World War I an even larger ratio of invest-

ment was financed by external capital. In considering these changes it should be noted that for a decade and a half, between 1934 and 1949, Canada was a net exporter of capital and that Canadian assets abroad have been rising over a long period.

It should also be noted that the above ratios relate to the place of non-resident investments in all spheres of development including those where Canadian sources of financing predominate such as in merchandising, agriculture, housing, public utilities, and other forms of social capital. Thus non-resident financing of industry and mining has been much higher than the over-all ratios indicate, and has provided the major portion of the capital investment in this field in the period since 1948. The most comprehensive calculation of the ratios of non-resident ownership in Canadian manufacturing, mining and petroleum is for the year 1955 and it should be noted that subsequent changes are likely to have increased non-resident ownership even more. In that year the Canadian manufacturing industry was 49 p.c. owned by non-residents but capital subject to foreign control was 57 p.c. when petroleum refining is included. These proportions compared with 45 p.c. and 48 p.c., respectively, as recently as at the end of 1951. In the broad field of mining, smelting and petroleum exploration and development companies, non-resident ownership and control each amounted to 62 p.c. and 66 p.c., respectively, at the end of 1955 whereas at the end of 1951 non-resident ownership and control had amounted to 51 p.c. and 53 p.c. respectively. However, resident-owned Canadian capital continued to play a leading role in the financing of such areas of business as merchandising, railways and other public utilities. Hence non-resident ownership in the broad area of business, including industry, mining, merchandising and railways and utilities as a whole, remained just under one-third for a period of some years up to 1955 (the last year for which the calculation has been made). But, in the same years, companies subject to non-resident control increased to some extent their share of the total even in this broad area of business, a trend also evident in many subdivisions of the manufacturing and extractive industries.

The same type of analysis has been applied to investments in the petroleum industry including exploration and development, refining, merchandising, pipelines and other transportation. This industry has been the largest single recipient of capital inflows in the postwar period, accounting directly for more than one-half of the net inflow of United States capital for direct investment in Canada. By the end of 1955, investments in Canadian petroleum concerns controlled in the United States made up 74 p.c. of the total, having increased sharply from the previous year. Another 6 p.c. of the investment was controlled in overseas countries. Investments owned in the United States and overseas were 59 p.c. and 5 p.c., respectively, of the total.

Another basis of judging the place of foreign-controlled business in Canadian industry is provided by a special study of production and employment in the larger Canadian manufacturing establishments controlled in the United States. Such establishments having an investment of \$1,000,000 or more accounted for about 30 p.c. of Canadian manufacturing production in 1953 and 21 p.c. of employment in that field. These ratios in non-resident-controlled plants were considerably higher than in 1946—the previous year for which a study of this kind was made.

In some industries the proportions of production and employment in plants controlled in the United States were much higher than this. Automobiles, for example, are mainly produced in United States-controlled plants, but this is exceptional. Among other industries where well over one-half of the production is in United States-controlled firms are the smelting and refining of non-ferrous metals, petroleum refining, rubber products, and motor-vehicle parts. In several major industries like electrical apparatus and supplies and non-ferrous metal products the distribution of control between Canadian and United States-controlled companies is more evenly divided. In other industries the non-resident share is large although less than one-half the total. These include pulp and paper, other paper products, chemicals, medicinal and pharmaceutical products, sheet-metal products, and certain branches of the machinery industry.

There are, however, many industries where the largest part of production has been in Canadian-controlled plants. Prominent among these are such important branches of industry as primary iron and steel, and some other subdivisions of the iron and steel industry, textiles, clothing, and divisions of the foods and beverages industry, such as bakery products, beverages, and dairy products. But even in some of these industries changes in ownership and control have been occurring in recent years.

10.—Estimate of the Canadian Balance of International Indebtedness, as at Dec. 31, 1939-57

NOTE.—Totals are rounded and may not represent the sum of their components. They are exclusive of short-term commercial indebtedness and blocked currencies.

(Billions of dollars)

Item	1939	1945	1949	1950	1954 ^r	1955 ^r	1956 ^r	1957
Canadian Liabilities (Foreign Capital Invested in Canada)—								
Direct investments.....	2.3	2.7	3.6	4.0	6.8	7.7	8.8	9.8
Government and municipal bonds.....	1.7	1.7	1.8	2.0	2.1	1.9	2.1	2.3
Other portfolio investments.....	2.6	2.4	2.3	2.4	3.1	3.1	3.5	3.8
Miscellaneous investments.....	0.3	0.3	0.3	0.3	0.7	0.8	1.0	1.2
Totals, Non-resident Long-Term Investment in Canada.....	6.9	7.1	8.0	8.7	12.5	13.5	15.6	17.1
Equity of non-residents in Canadian assets abroad.....	0.2	0.2	0.3	0.3	0.6	0.7	0.8	0.8
Canadian dollar holdings of non-residents	0.3	0.3	0.4	0.6	0.3	0.4	0.4	0.4
Canadian short-term assets of IMF and IBRD.....	—	—	0.3	0.3	0.2	0.2	0.2	0.2
Gross Liabilities.....	7.4	7.6	8.9	9.9	13.7	14.8	17.0	18.5
United States.....	4.5	5.4	6.4	7.1	10.3	11.1	12.6	13.8
United Kingdom.....	2.6	1.8	1.8	2.0	2.3	2.5	2.8	3.1
Other countries, IMF and IBRD.....	0.3	0.4	0.7	0.8	1.0	1.2	1.5	1.7
Canadian Assets (Canadian Capital Invested Abroad)—								
Direct investments.....	0.7	0.7	0.9	1.0	1.6	1.7	1.9	2.1
Portfolio investments.....	0.7	0.6	0.6	0.6	0.9	1.0	1.0	1.0
Government of Canada loans and advances.....	—	0.7	2.0	2.0	1.7	1.6	1.6	1.5
Government of Canada subscriptions to IMF and IBRD.....	—	—	0.4	0.4	0.4	0.4	0.4	0.4
Totals, Canadian Long-Term Investments Abroad.....	1.4	2.0	4.0	4.0	4.6	4.7	4.8	5.0
Government of Canada holdings of gold and foreign exchange.....	0.5	1.7	1.2	1.9	1.9	1.9	1.9	1.8
Other Canadian short-term assets abroad	—	0.1	0.1	0.1	0.4	0.3	0.5	0.8
Gross Assets.....	1.9	3.8	5.2	5.9	6.9	6.9	7.2	7.6
Government of Canada holdings of gold and foreign exchange.....	0.5	1.7	1.2	1.9	1.9	1.9	1.9	1.8
United States ¹	0.9	0.9	1.1	1.1	2.1	2.2	2.5	2.9
United Kingdom ¹	0.1	0.7	1.6	1.6	1.5	1.4	1.4	1.3
Other countries, IMF and IBRD.....	0.4	0.5	1.3	1.3	1.4	1.4	1.4	1.5
Canadian Net International Indebtedness—Net Liabilities.....	5.5	3.9	3.7	4.0	6.8	7.9	9.8	11.0
Government of Canada holdings of gold and foreign exchange.....	-0.5	-1.7	-1.2	-1.9	-1.9	-1.9	-1.9	-1.8
United States ¹	3.6	4.6	5.3	6.0	8.2	8.9	10.1	10.9
United Kingdom ¹	2.5	1.1	0.2	0.4	0.9	1.1	1.5	1.7
Other countries, IMF and IBRD.....	-0.1	-0.1	-0.6	-0.5	-0.4	-0.2	0.1	0.2

¹ Exclusive of Government of Canada holdings of gold and foreign exchange.

11.—Foreign Capital Invested in Canada, by Type of Investment, as at Dec. 31, 1930-56

(Millions of dollars)

Type of Investment	1930	1945	1951	1953	1954 [*]	1955 [*]	1956
Government Securities—							
Federal.....	682	726	1,013	744	659	529	502
Provincial.....	592	624	771	930	964	888	1,081
Municipal.....	432	312	319	413	433	451	551
Totals, Government Securities.....	1,706	1,662	2,103	2,087	2,056	1,868	2,134
Public Utilities—							
Railways.....	2,244	1,599	1,436	1,424	1,428	1,364	1,425
Other (excluding pipelines).....	634	493	524	559	570	575	629
Totals, Public Utilities.....	2,878	2,092	1,960	1,983	1,998	1,939	2,054
Manufacturing (excluding petroleum refining).....	1,459	1,723	2,715	3,431	3,721	4,026	4,566
Petroleum and natural gas.....	150	157	693	1,252	1,488	1,854	2,257
Other mining and smelting.....	311	359	586	823	981	1,121	1,352
Merchandising.....	190	220	377	493	571	616	691
Financial institutions.....	543	525	595	774	1,014	1,229	1,495
Other enterprises.....	82	70	120	151	154	177	206
Miscellaneous investments.....	295	284	328	467 ¹	561	641	821
Totals, Investment.....	7,614	7,092	9,477	11,461	12,544	13,471	15,556
United States ²	4,660	4,990	7,259	8,870	9,664	10,280	11,785
United Kingdom ²	2,766	1,750	1,778	2,008	2,177	2,349	2,661
Other countries.....	188	352	440	583	703	842	1,110

¹ New series.² Includes some investments held for residents of other countries.**12.—Foreign Capital Invested in Canada by Type of Investment, classified by Estimated Distribution of Ownership, as at Dec. 31, 1956**

NOTE.—Common and preferred stocks are at book values as shown in the balance sheets of the issuing companies; bonds and debentures are valued at par; and liabilities in foreign currencies are converted into Canadian dollars at par of exchange.

Type of Investment	Estimated Distribution of Ownership			Total Investments of Non-residents
	United States ¹	United Kingdom ¹	Other Countries	
	\$'000,000	\$'000,000	\$'000,000	\$'000,000
Government Securities—				
Federal.....	340	72	90	502
Provincial.....	1,021	45	15	1,081
Municipal.....	510	35	6	551
Totals, Government Securities.....	1,871	152	111	2,134
Public Utilities—				
Railways.....	535	765	125	1,425
Other (excluding pipelines).....	461	97	71	629
Totals, Public Utilities.....	996	862	196	2,054
Manufacturing (excluding petroleum refining).....	3,600	817	149	4,566
Petroleum and natural gas.....	2,045	72	140	2,257
Other mining and smelting.....	1,133	117	82	1,332
Merchandising.....	505	158	28	691
Financial institutions.....	991	286	218	1,495
Other enterprises.....	169	29	8	206
Miscellaneous investments.....	475	163	178	821
Totals, Investments.....	11,785	2,661	1,110	15,556

¹ Includes some investments held for residents of other countries.

Canadian Assets Abroad.—While there has been a great growth in non-resident investment in Canada and in the balance of indebtedness to other countries, it will be noted that Canadian assets abroad, shown in Tables 13 and 14, have continued to rise in value each year. These now represent a larger proportion of liabilities abroad than was the case before World War II, but most of the increase since then has been in government-owned assets such as the official reserves and the loans by the Canadian Government to other governments which were extended during the War and early postwar years. In 1956 the government credits outstanding had a value of \$1,565,000,000 while official holdings of exchange amounted to \$1,866,000,000 in terms of Canadian dollars. Other official Canadian assets include Canada's subscriptions to the capital of the International Bank, the International Finance Corporation and the International Monetary Fund which, by March 1957, amounted to \$70,900,000, \$3,500,000, and \$290,900,000 respectively.

The portion of the assets in private investments, particularly in the form of direct investments abroad by Canadian companies, is still small in relation to the corresponding non-resident stake in equities in Canada. Private long-term investments abroad by Canadians in 1956 were made up of direct investments of \$1,903,000,000 and portfolio investments of \$998,000,000. More than two-thirds of the privately owned investments were located in the United States. Direct investments in that country by Canadian businesses have been growing particularly rapidly and are mainly in the beverage, farm implement and chemical industries and in railways.

Private investments in overseas countries are widely distributed. About one-half of the total in 1956 were located in Commonwealth countries, with somewhat less in the United Kingdom than in the remainder of the Commonwealth. Most of the direct investments in the United Kingdom were in industry, while in other Commonwealth countries there were investments in mining and petroleum as well as in industry. In foreign overseas countries the largest part is in the countries of Latin America made up mainly of holdings in public utilities.

13.—Canadian Assets Abroad, 1939, 1948 and 1954-56

NOTE.—Excludes investments of insurance companies and banks, Canada's subscriptions to international financial institutions and short-term assets, other than official holdings of gold and foreign exchange. Holdings of stocks are at book values as shown in the books of issuing companies; holdings of bonds are shown at par values. Foreign currencies are converted into Canadian dollars at current market rates. The series for portfolio investment was reconstructed in 1952 and is not strictly comparable with preceding years.

(Millions of dollars)

Assets	1939	1948	1954	1955*	1956
Direct investments in businesses outside Canada.....	671	788	1,628	1,749	1,903
Portfolio holdings of foreign securities.....	719	605	926	993	998
Government credits.....	31	1,878	1,705	1,635	1,565
Official balances abroad and gold.....	459	1,006	1,888	1,908	1,866
Totals.....	1,880	4,277	6,147	6,285	6,332

14.—Canadian Assets Abroad by Location of Investment, as at Dec. 31, 1956

NOTE.—See headnote to Table 13.

Location of Investment	Direct Invest- ments	Portfolio Investment		Government Credits	Official Holdings of Exchange	Total Invest- ments
		Stocks	Bonds	Bonds	Total	
	\$'000,000	\$'000,000	\$'000,000	\$'000,000	\$'000,000	\$'000,000
United States	1,407	551	84	—	799	2,841
United Kingdom	139	32	16	1,157	8	1,352
Other Commonwealth countries	191	7	21	—	—	219
Other foreign countries	166	185	102	408	—	861
Official gold holdings	—	—	—	—	1,059	1,059
Totals	1,903	775	223	1,565	1,866	6,332

CHAPTER XXIV.—CURRENCY AND BANKING; MISCELLANEOUS COMMERCIAL FINANCE

CONSPECTUS

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NOTE.—The interpretation of the symbols used in the tables throughout the Year Book will be found facing p. 1 of this volume.

PART I.—CURRENCY AND BANKING*

A historical sketch of currency and banking in Canada appears in the 1938 Year Book, pp. 900-905.

Section 1.—The Bank of Canada

The Bank of Canada was incorporated under the Bank of Canada Act 1934 and commenced operations on Mar. 11, 1935.

The Bank of Canada is Canada's central bank and as such its main function is to regulate the total volume of money and credit. The normal way in which this function is performed is through changes in the cash reserves of the chartered banks. Each chartered bank is required by the Bank Act to maintain, on the average during each calendar month, an amount of cash reserves, in the form of Bank of Canada notes and deposits with the Bank of Canada, equal to not less than 8 p.c. of its Canadian dollar deposit liabilities. (Prior to July 1, 1954, each chartered bank was required to maintain at all times, cash reserves equal to not less than 5 p.c. of its Canadian dollar deposit liabilities; in practice the chartered banks normally attempted to maintain a ratio of about 10 p.c.) An increase in cash reserves encourages banks to expand their assets (mainly by purchasing securities and making loans), with a resultant similar increase in their deposit liabilities; a decrease in cash reserves tends to discourage expansion and may result in some contraction. Therefore, by taking steps to alter the volume of cash reserves available to the chartered banks, the Bank of Canada is able to influence the total of chartered bank assets and the total of their Canadian dollar deposit liabilities. The deposit liabilities of the banks, except for those payable to the Government, are of course assets of the general public and, together with currency, comprise their most liquid assets. (See Table 6, p. 1108, for Canadian dollar currency and bank deposits held by the general public.)

Open market operations in Government of Canada securities constitute the chief means by which the Bank of Canada influences the volume of chartered bank reserves. When the Bank of Canada purchases a security it issues a cheque in settlement which, after it is cashed at, or deposited with, a chartered bank by the recipient, is in turn deposited

* Except where otherwise indicated, this material has been revised by the Research Department of the Bank of Canada.

by that chartered bank in its account with the Bank of Canada, thereby increasing its cash reserves. Conversely, when the Bank of Canada sells a security the cheque which it receives in payment is charged against the account of the chartered bank on which it is drawn, thus decreasing that bank's cash reserves. Increases or decreases in other assets and liabilities of the Bank of Canada also have an effect on the chartered banks' cash reserves. For example, an increase in the amount of Bank of Canada notes held by the general public tends to reduce the banks' cash reserves.

The powers of the Bank are set forth in the Bank of Canada Act 1934 (R.S.C. 1952, c. 13), revisions in which were made in 1936, 1938 and 1954. Some of these powers are outlined below.

The Bank of Canada may vary the minimum cash reserve requirement of the chartered banks between 8 p.c. and 12 p.c. of their Canadian dollar deposit liabilities, provided that the chartered banks are given a minimum notice period of one month before each increase becomes effective and that any increase is not more than 1 p.c. during any one month. When this legislation became effective on June 1, 1954, the initial requirement was 8 p.c. and it has since remained at that level.

The Bank may make loans or advances for periods not exceeding six months to chartered banks, or to banks to which the Quebec Savings Bank Act applies, on the pledge or hypothecation of certain classes of securities. Loans or advances on the pledge or hypothecation of readily marketable securities issued or guaranteed by Canada or any province may be made to the Government of Canada or the government of any province for periods not exceeding six months. Other loans may be made to the Government of Canada or the government of any province in amounts not exceeding a fixed proportion of such government's revenue; such loans must be repaid before the end of the first quarter after the end of the fiscal year of the borrower.

The Bank of Canada is required to make public at all times the minimum rate at which it is prepared to make loans or advances. This rate, known as the Bank Rate, stood at 2 p.c. per annum from Oct. 17, 1950, to Feb. 14, 1955, when it was reduced to $1\frac{1}{2}$ p.c. It was raised to 2 p.c. on Aug. 5, 1955, to $2\frac{1}{4}$ p.c. on Oct. 12, 1955, to $2\frac{3}{4}$ p.c. on Nov. 18, 1955, to 3 p.c. on Apr. 4, 1956, to $3\frac{1}{4}$ p.c. on Aug. 10, 1956, and to $3\frac{1}{2}$ p.c. on Oct. 17, 1956. Effective Nov. 1, 1956, the Bank of Canada announced that henceforth until further notice the Bank Rate would be established weekly at a fixed margin of $\frac{1}{2}$ of 1 p.c. above the latest weekly average tender rate for 91-day treasury bills. The Bank Rate rose from 3.92 p.c. at the end of 1956 to a high of 4.33 p.c. in August 1957, declined to a low of 1.12 p.c. in July 1958, and rose again to 3.74 p.c. at the close of 1958.

The Bank has the sole right to issue paper money for circulation in Canada. Details regarding the note issue are given on p. 1106.

The Bank acts as the fiscal agent for the Government of Canada in the payment of interest and principal and generally in respect of the management of the public debt of Canada.

The Bank may buy and sell securities issued or guaranteed by Canada or any province, short-term securities issued by the United Kingdom, treasury bills or other obligations of the United States, and certain classes of short-term commercial paper. The Bank is authorized by the Industrial Development Bank Act to purchase bonds and debentures issued by the Industrial Development Bank. The Bank may buy and sell gold, silver, nickel and bronze coin, and gold and silver bullion, and may also deal in foreign exchange. The Bank may accept deposits that do not bear interest from the Government of Canada, the government of any province, any chartered bank or any bank to which the Quebec Savings Bank Act applies. The Bank does not accept deposits from individuals and does not compete with the chartered banks in commercial banking fields.

Sect. 23 of the Bank of Canada Act provides that the Bank shall maintain a reserve of gold equal to not less than 25 p.c. of its outstanding notes and deposit liabilities. This requirement was suspended in 1940 when, under the terms of the Exchange Fund Order, the Bank's gold holdings were transferred to the Exchange Fund Account to form

Canada's official gold and United States dollar reserves. The Currency, Mint and Exchange Fund Act passed in 1952 provides that, notwithstanding Sect. 23 of the Bank of Canada Act, the Bank of Canada is not required to maintain a minimum or fixed ratio of gold or foreign exchange to its liabilities unless the Governor in Council otherwise prescribes.

The Bank is under the management of a Board of Directors composed of a Governor, a Deputy Governor and twelve Directors. The Governor and Deputy Governor are appointed for terms of seven years each by the Directors, with the approval of the Governor General in Council. The Directors are appointed by the Minister of Finance, with the approval of the Governor General in Council, for terms of three years each. The Deputy Minister of Finance is a member of the Board but does not have the right to vote. There is an Executive Committee of the Board composed of the Governor, the Deputy Governor, one Director and the Deputy Minister of Finance (who is without a vote) which has the same powers as the Board except that its every decision must be submitted to the Board at its next meeting. In addition to the Deputy Governor who is a member of the Board, there may be one or more Deputy Governors appointed by the Board of Directors to perform such duties as are assigned by the Board.

The Governor is the chief executive officer of the Bank and Chairman of the Board of Directors. The Governor has the power to veto any action or decision of the Board of Directors or of the Executive Committee but such veto is subject to confirmation or disallowance by the Governor General in Council. In the absence of the Governor, the Deputy Governor, who is a member of the Board, exercises all the powers and functions of the Governor.

The capital of the Bank is \$5,000,000 and is held entirely by the Minister of Finance.* The Bank of Canada Act as amended in 1954 provides that each year 20 p.c. of the Bank's annual profits (after provision for depreciation in assets, pension funds and such matters) shall be allocated to the Rest Fund until the Rest Fund reaches an amount five times the paid-up capital of the Bank and the remainder shall be paid to the Receiver General and placed to the credit of the Consolidated Revenue Fund. At the end of 1957, the Rest Fund of the Bank reached its maximum of \$25,000,000 so that, since that date, the whole of the Bank's profits have been transferred to the Receiver General.

The head office of the Bank is at Ottawa. It has agencies at Halifax, Saint John, Montreal, Ottawa, Toronto, Winnipeg, Regina, Calgary and Vancouver and is represented in St. John's and Charlottetown. The agencies are chiefly concerned with the functions of the Bank as fiscal agent for the Government of Canada and with the issue and redemption of currency. The Industrial Development Bank, which is described on the following page, is a subsidiary of the Bank of Canada.

The Bank of Canada Act requires that statements of the assets and liabilities of the Bank on each Wednesday and the last day of each month be published in the *Canada Gazette*. A summary of the statement as at Dec. 31, 1956-58, appears in Table 1.

1.—Assets and Liabilities of the Bank of Canada, as at Dec. 31, 1956-58

Item	1956	1957	1958
	\$'000,000	\$'000,000	\$'000,000
Assets			
Foreign exchange.....	61.0	63.6	55.3
Advances to chartered and savings banks.....	—	—	2.0
Investments—			
Treasury bills of Canada.....	505.2	467.1	35.9
Other securities issued or guaranteed by Canada maturing within 2 years.....	519.7	779.2	245.2
Other securities issued or guaranteed by Canada not maturing within 2 years.....	1,369.0	1,181.2	2,340.6
Bonds and debentures issued by Industrial Development Bank....	23.0	36.2	52.9
Other securities.....	16.7	16.7	38.5
Industrial Development Bank capital stock.....	25.0	25.0	25.0
Bank premises.....	5.8	8.6	9.8
All other assets.....	22.3	81.1	139.1
Totals, Assets.....	2,547.7	2,658.7	2,944.4

1.—Assets and Liabilities of the Bank of Canada, as at Dec. 31, 1956-58—concluded

Item	1956	1957	1958
	\$'000,000	\$'000,000	\$'000,000
Liabilities			
Capital paid up	5.0	5.0	5.0
Reserve Fund	25.0	25.0	25.0
Notes in Circulation—			
Held by chartered banks	370.9	348.6	338.2
All other	1,497.8	1,555.1	1,659.9
Deposits—			
Government of Canada	38.8	35.4	34.9
Chartered banks	511.5	517.6	662.7
Other	31.2	31.2	25.0
Foreign currency liabilities	62.2	70.0	83.9
All other liabilities	5.4	70.8	109.9
Totals, Liabilities	2,547.7	2,658.7	2,944.4

The Industrial Development Bank.—The Industrial Development Bank, a subsidiary of the Bank of Canada, was incorporated by Act of Parliament during 1944 and its banking operations commenced on Nov. 1, 1944. Its functions are described in the preamble to the Act as follows:—

“To promote the economic welfare of Canada by increasing the effectiveness of monetary action through ensuring the availability of credit to industrial enterprises which may reasonably be expected to prove successful if a high level of national income and employment is maintained, by supplementing the activities of other lenders and by providing capital assistance to industry with particular consideration to the financing problems of small enterprises.”

The President of the Industrial Development Bank is the Governor of the Bank of Canada and the Directors are the Directors of the Bank of Canada. The \$25,000,000 capital stock of the Bank (completely paid up) was subscribed by the Bank of Canada. The Industrial Development Bank may also raise funds by the issue of bonds and debentures provided that its total direct liabilities and contingent liabilities in the form of guarantees and underwriting agreements do not exceed three times the aggregate of the Bank's paid-up capital and Reserve Fund.

The lending powers of the Bank may be extended only to industrial enterprises in Canada with respect to which it is empowered to:—

- (1) lend money or guarantee loans;
- (2) enter into underwriting agreements with regard to any issue of stock, bonds or debentures;
- (3) acquire stock, bonds or debentures from the issuing corporation or any person with whom the Bank has entered into an underwriting agreement.

Industrial enterprises as defined by the Act (amended in 1956) include: (1) manufacturing, processing, assembling, installing, overhauling, reconditioning, altering, repairing, cleaning, packaging, transporting or warehousing of goods; (2) logging, operating a mine or quarry, drilling, construction, engineering, technical surveys or scientific research; (3) generating or distributing electricity or operating a commercial air service, or the transportation of persons, or (4) supplying premises, machinery or equipment for any business mentioned in (1), (2) or (3) under a lease, contract or other arrangement whereby title to the premises, machinery or equipment is retained by the supplier.

The Bank may accept any form of collateral security against its advances, including real property.

The Industrial Development Bank is intended to supplement the activities of other lending agencies, not to compete with them, and the Act of incorporation requires that it should extend credit only when the Board of Directors is of the opinion that similar credit would not be available elsewhere on reasonable terms and conditions. The Bank is specifically prohibited from engaging in the business of deposit banking.

Section 2.—Currency

Subsection 1.—Notes and Coinage

Note Circulation.—The development by which bank notes became the chief circulating medium in Canada prior to 1935 is described in the 1938 Year Book, pp. 900-905. Those features of the development which then became permanent are outlined in the 1941 Year Book, pp. 809-810.

When the Bank of Canada commenced operations in 1935 it assumed liability for Dominion notes outstanding. These were replaced in public circulation and partly replaced in cash reserves by the Bank's legal tender notes in denominations of \$1, \$2, \$5, \$10, \$20, \$50 and \$100. Deposits of chartered banks at the Bank of Canada completed the replacement of the old Dominion notes of \$1,000 to \$50,000 denomination that had previously been used as cash reserves.

The chartered banks were required under the Bank Act of 1934 to reduce gradually the issue of their own bank notes during the years 1935-45 to an amount not in excess of 25 p.c. of their paid-up capital on Mar. 11, 1935. Bank of Canada notes thus replaced chartered bank notes as the issue of the latter was reduced. Further restrictions introduced by the 1944 revision of the Bank Act cancelled the right of chartered banks to issue or re-issue notes after Jan. 1, 1945, and in January 1950 the chartered banks' liability for such of their notes issued for circulation in Canada as then remained outstanding was transferred to the Bank of Canada in return for payment of a like sum to the Bank of Canada.

2.—Bank of Canada Note Liabilities and Other Notes in Circulation, as at Dec. 31, 1950 and 1956-58

Denomination	1950	1956	1957	1958
	\$'000	\$'000	\$'000	\$'000
Bank of Canada Notes—				
\$1.....	50,273	70,270	72,589	75,873
\$2.....	37,279	50,371	51,952	53,597
\$5.....	111,731	138,004	139,839	143,010
\$10.....	429,886	528,741	528,575	533,078
\$20.....	346,060	555,755	582,163	627,814
\$25.....	47	46	46	46
\$50.....	108,735	134,381	134,803	143,606
\$100.....	254,457	364,052	365,479	391,629
\$500.....	160	58	51	49
\$1,000.....	11,489	13,233	14,661	15,928
Totals.....	1,350,117	1,854,912	1,890,159	1,984,630
Chartered banks' notes¹.....	12,487	9,025	8,799	8,655
Dominion of Canada notes¹.....	4,702	4,651	4,648	4,645
Provincial notes¹.....	28	28	28	28
Defunct banks' notes¹.....	88	88	88	88
Totals, Bank of Canada Note Liabilities.....	1,367,422	1,868,704	1,903,721	1,998,046
Held by—				
Chartered banks.....	231,306	370,938	348,606	338,176
Others.....	1,136,116	1,497,766	1,555,115	1,659,870

¹ Note issues in the process of being retired, the liability for which has been taken over by the Bank of Canada from the original issuers.

3.—Note Circulation in the Hands of the Public, as at Dec. 31, 1950-58

As at Dec. 31—	Bank of Canada Notes ¹	Per Capita ²	As at Dec. 31—	Bank of Canada Notes ¹	Per Capita ²
	\$	\$		\$	\$
1950.....	1,136,115,742	82.86	1955.....	1,449,045,166	92.88
1951.....	1,191,091,182	85.02	1956.....	1,497,765,781	93.14
1952.....	1,288,688,392	89.31	1957.....	1,555,115,143	93.74
1953.....	1,335,332,954	90.34	1958.....	1,659,870,299	97.36
1954.....	1,361,874,433	89.63			

¹ Total issue less notes held by chartered banks.
162-163.

² Based on estimates of population as given at pp.

Coinage.*—Under the Currency, Mint and Exchange Fund Act (R.S.C. 1952, c. 315), gold coins may be issued in denominations of twenty dollars, ten dollars and five dollars (nine-tenths fine or millesimal fineness, 900). Subsidiary coins include: silver coins in denominations of one dollar, 50 cents, 25 cents, 10 cents (eight-tenths fine or millesimal fineness, 800); pure nickel five-cent coins; and bronze (copper, tin and zinc) one-cent coins. Provision is made for the temporary alteration of composition in event of a shortage of prescribed metals. A tender of payment of money in coins is a legal tender in the case of gold coins for the payment of any amount; in the case of silver coins for the payment of an amount up to \$10; nickel coins for payment up to \$5; and bronze coins up to 25 cents.

4.—Canadian Coin in Circulation, as at Dec. 31, 1949-58

NOTE.—The figures shown are of net issues of coin. Figures from 1901 are given in the corresponding table of previous Year Books beginning with the 1927-28 edition.

As at Dec. 31—	Silver	Nickel	Tombac ¹	Steel	Bronze	Total	Per Capita ²
	\$	\$	\$	\$	\$	\$	\$
1949.....	67,874,750	6,753,780	661,333	1,519,743	9,407,325	86,216,931	6.41
1950.....	73,473,724	7,393,138	621,440	1,519,419	10,012,143	93,019,864	6.78
1951.....	78,638,143	7,815,103	599,655	1,701,849	10,794,169	99,548,919	7.11
1952.....	83,463,939	7,814,398	584,882	2,278,329	11,476,591	105,618,139	7.32
1953.....	89,550,236	7,813,081	570,847	3,109,691	12,130,181	113,174,036	7.66
1954.....	91,350,637	7,810,723	560,577	3,458,758	12,392,389	115,573,084	7.60
1955.....	95,574,457	8,076,800	555,912	3,457,712	12,956,807	120,621,688	7.62
1956.....	100,922,477	8,545,507	552,868	3,456,782	13,742,282	127,219,916	7.87
1957.....	107,116,450	8,910,869	550,743	3,455,886	14,745,243	134,779,191	7.98
1958.....	115,120,076	9,289,481	549,630	3,455,062	15,322,156	143,736,405	8.32

¹ Tombac, a copper-zinc alloy, was used to conserve nickel for war purposes; no coins of this metal have been issued since 1944.

² Based on estimates of population as given at pp. 162-163.

The Royal Canadian Mint.*—The Mint at Ottawa was established as a branch of the Royal Mint under the (Imperial) Coinage Act 1870 and opened on Jan. 2, 1908. In 1931 (21-22 Geo. V, c. 48) it was constituted a branch of the Canadian Department of Finance and has since operated as the Royal Canadian Mint. From 1858 the British North American provinces, and later Canada, obtained their coins from the Royal Mint at London or from The Mint, Birmingham, England. Before that date, coins were mainly British, United States and Spanish. In its earlier years the operations of the Mint in Canada were confined to the production of gold, silver and bronze coins for domestic circulation and of British sovereigns and small coins struck under contract for Newfoundland and Jamaica.

Before 1914 only small quantities of gold bullion were refined but during World War I the Mint came to the assistance of the British Government by establishing a refinery in which nearly 20,000,000 oz. t. of South African gold were treated on Bank of England

* Revised by the Master of the Royal Canadian Mint, Ottawa.

account. The subsequent development of the gold mining industry in Canada resulted in gold refining becoming one of the principal activities of the Mint. Fine gold produced from the rough bullion shipments received from the mines is purchased by the Mint and later delivered to the Bank of Canada for account of the Minister of Finance in bars of approximately 400 oz. t. each or, for those mines authorized to sell gold in the open market, the bullion is shipped to various domestic and foreign processors. The fine silver extracted from the rough gold is generally used for coinage purposes.

5.—Annual Receipts of Gold Bullion at the Royal Canadian Mint and Bullion and Coinage Issued, 1949-58

NOTE.—Figures from 1926 are given in the corresponding table of previous Year Books beginning with the 1946 edition.

Year	Gold Received	Gold Bullion Issued	Silver Coin Issued	Nickel Coin Issued	Steel Coin Issued	Bronze Coin Issued
	oz. t.	oz. t.	\$	\$	\$	\$
1949.....	3,925,618	3,865,296	4,148,842	637,500	—	321,901
1950.....	4,422,968	4,347,961	5,641,805	640,510	—	607,003
1951.....	4,169,480	4,167,485	5,213,677	423,003	182,829	783,329
1952.....	3,953,158	4,031,063	4,869,552	597	576,965	683,820
1953.....	3,684,074	3,626,497	6,138,686	234	831,915	655,130
1954.....	3,829,431	3,998,836	1,864,968	27	350,229	263,897
1955.....	3,947,637	3,952,764	4,269,157	267,801	—	566,863
1956.....	3,801,789	3,774,599	5,389,464	469,993	—	786,855
1957.....	3,896,084	3,776,711	6,236,429	366,493	—	1,004,221
1958.....	3,958,459	4,088,706	8,044,753	379,616	—	578,274

Subsection 2.—Canadian Dollar Currency and Bank Deposits Held by the General Public

Bank of Canada statistics concerning the dollar currency and bank deposits held by the general public are given in Table 6.

6.—Canadian Dollar Currency and Chartered Bank Deposits, as at Dec. 31, 1949-58

(Millions of dollars)

As at Dec. 31—	Currency Outside Banks			Chartered Bank Deposits				Total Currency and Chartered Bank Deposits ¹		
	Notes	Coin	Total	Personal Savings Deposits ²	Government of Canada Deposits	Other Deposits ^{1,2}	Total ¹	Total Including Government Deposits	Held by General Public	
									Including Personal Savings Deposits	Excluding Personal Savings Deposits ²
1949.....	1,110	74	1,184	4,086	164	2,776	7,026	8,210	8,046	3,960
1950.....	1,136	78	1,214	4,176	257	3,116	7,549	8,763	8,506	4,330
1951.....	1,191	84	1,275	4,296	88	3,100	7,484	8,759	8,671	4,375
1952.....	1,289	88	1,377	4,600	49	3,281	7,930	9,307	9,258	4,658
1953.....	1,335	94	1,430	4,756	473	3,130	8,359	9,789	9,316	4,560
1954.....	1,362	96	1,458	5,218	176	3,462	8,856	10,314	10,137	4,920
1955.....	1,449	101	1,550	5,633	517	3,697	9,847	11,397	10,880	5,243
1956.....	1,498	108	1,605	6,007	246	3,580	9,833	11,438	11,192	5,185
1957.....	1,555	112	1,667	6,108 ¹	423	3,725 ²	10,256	11,923	11,500	5,392 ²
1958.....	1,660	121	1,781	6,844	319	4,303	11,466	13,247	12,927	6,084

¹ Less total float, i.e., cheques and other items in transit.

² The deposit balances of religious, educational and welfare institutions and personal accounts used mainly for business purposes were reclassified from "personal savings deposits" to "other notice deposits" as at Sept. 30, 1957, in the returns of the banks to the Department of Finance; from that date the figures are thus not comparable with those for previous years. The amount of deposits reclassified was approximately \$140,000,000.

Section 3.—Commercial Banking

As one of the chief functions of the early banks in Canada was to issue notes to provide a convenient currency or circulating medium, it has been expedient to cover both currency and banking in one historical sketch, which is given in the 1938 Year Book, pp. 900-905. A list of the banks at Confederation appears in the 1940 Year Book, p. 897, and bank absorptions since 1867 are given in the 1941 edition, pp. 812-813. A table in the 1937 Year Book, pp. 894-895, shows the insolvencies since Confederation; the last insolvency occurred in 1923.

Subsection 1.—Chartered Banks

Canadian commercial banks are chartered or licensed by the Government of Canada and operate under one federal statute—the Bank Act—which is revised every ten years and brought into line with changing economic conditions. In addition to conducting a commercial banking business the chartered banks hold most of the public's savings deposits. The last revision of the Bank Act took place in 1954. An outline of the revisions made at that time is given in the 1956 Year Book, pp. 1109-1110.

Branches of Chartered Banks.—Although there are fewer chartered banks now than at the beginning of the century, there has been a great increase in the number of branch banking offices. As a result of amalgamations, the number of banks declined from 34 in 1901 to 10 in 1931, and remained at that figure until the incorporation of a new bank—the Mercantile Bank of Canada—in 1953 brought the total to 11. Since then the amalgamation in 1955 of the Bank of Toronto and the Dominion Bank as the Toronto-Dominion Bank, and the amalgamation of Barclays Bank (Canada) with the Imperial Bank of Canada in 1956 has reduced this number to nine. The number of branches of chartered banks in each province from 1868 is given in Table 7.

7.—Branches of Chartered Banks, by Province, as at Dec. 31 for Certain Years 1868-1958

NOTE.—Figures for 1920 and subsequent years include sub-agencies in Canada receiving deposits for the banks employing them; there were 733 such sub-agencies in 1958.

Province or Territory	1868	1902	1905	1920	1926	1930	1940	1943	1946	1950	1956	1957	1958
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
Newfoundland.....	...	...	...	...	...	...	...	...	...	39	55	59	65
Prince Edward Island....	—	9	10	41	28	28	25	23	23	23	24	24	24
Nova Scotia.....	5	89	101	169	134	138	134	126	127	144	156	159	164
New Brunswick.....	4	35	49	121	101	102	97	93	96	100	109	109	110
Quebec.....	12	137	196	1,150	1,072	1,183	1,083	1,041	1,067	1,164	1,318	1,337	1,363
Ontario.....	100	349	549	1,586	1,326	1,409	1,208	1,092	1,117	1,257	1,544	1,584	1,640
Manitoba.....	—	52	95	349	224	239	162	148	151	165	200	206	216
Saskatchewan.....	—	30	87	591	427	447	233	213	226	238	265	268	275
Alberta.....				424	269	304	172	163	190	246	322	337	352
British Columbia.....	2	46	55	242	186	229	192	180	216	294	414	436	455
Yukon and N.W.T.....	—	—	3	3	3	4	5	5	6	9	9	10	13
Canada.....	123	747	1,145	4,676	3,770	4,083	3,311	3,084	3,219	3,679	4,416	4,529	4,677

8.—Branches of Individual Canadian Chartered Banks, by Province, as at Dec. 31, 1958

NOTE.—This table includes 733 sub-agencies in Canada for receiving deposits.

Bank	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.
	No.	No.	No.	No.	No.	No.
Bank of Montreal.....	17	1	23	17	145	275
Bank of Nova Scotia.....	27	8	47	37	43	208
Banque Canadienne Nationale.....	—	—	—	—	564	19
Banque Provinciale du Canada.....	—	3	—	18	309	23
Canadian Bank of Commerce.....	5	6	23	11	111	340
Imperial Bank of Canada.....	—	—	1	1	21	173
Mercantile Bank of Canada.....	—	—	—	—	1	1
Royal Bank of Canada.....	16	5	68	22	119	298
Toronto-Dominion Bank.....	—	1	2	4	50	303
Totals.....	65	24	164	110	1,363	1,640
	Man.	Sask.	Alta.	B.C.	Yukon and N.W.T.	Total
	No.	No.	No.	No.	No.	No.
Bank of Montreal.....	39	45	81	109	3	755
Bank of Nova Scotia.....	16	29	43	54	—	512
Banque Canadienne Nationale.....	4	—	—	—	—	587
Banque Provinciale du Canada.....	—	—	—	—	—	353
Canadian Bank of Commerce.....	46	55	72	123	5	797
Imperial Bank of Canada.....	11	27	44	29	1	308
Mercantile Bank of Canada.....	—	—	—	1	—	3
Royal Bank of Canada.....	66	81	71	100	4	850
Toronto-Dominion Bank.....	34	38	41	39	—	512
Totals.....	216	275	352	455	13	4,677

9.—Branches of Individual Canadian Chartered Banks Outside Canada, as at Dec. 31, 1956-58

NOTE.—This table does not include 15 sub-agencies operating outside Canada.

Bank and Location	1956	1957	1958	Bank and Location	1956	1957	1958
	No.	No.	No.		No.	No.	No.
Bank of Montreal—				Royal Bank of Canada—			
United Kingdom.....	2	2	2	United Kingdom.....	2	2	2
United States.....	2	2	2	British West Indies.....	18	21	15
France.....	3	3	3	United States.....	1	1	1
Germany.....	3	4	4	Cuba.....	19	20	23
Bank of Nova Scotia—				Puerto Rico.....	3	4	5
United Kingdom.....	1	2	2	Central and South America.....	25	26	25
British West Indies.....	22	24	20	Haiti.....	1	1	1
Dominican Republic.....	2	2	2	Dominican Republic.....	5	6	6
United States.....	1	1	1	France.....	1	1	1
Cuba.....	8	8	8	Toronto-Dominion—			
Puerto Rico.....	3	3	3	United Kingdom.....	1	1	1
Trinidad.....	1	1	1	United States.....	1	1	1
Canadian Bank of Commerce—				Banque Canadienne Nationale—			
United Kingdom.....	1	2	2	France.....	1	1	1
British West Indies.....	4	5	5				
United States.....	5	5	5	Totals.....	136	149	142

Financial Statistics of the Chartered Banks.—The classification of chartered bank assets and liabilities was revised by the Bank of Canada Act 1954, so that some of the statistics given in the following tables are not comparable with those appearing in

earlier editions of the Year Book. Figures shown in Table 10 prior to July 1954 have been adjusted to comply with the new classification. Month-end data are available from Dec. 31, 1954, to date in the Bank of Canada *Statistical Summary*.

10.—Assets and Liabilities of the Chartered Banks, as at Dec. 31, 1949-58

(Millions of dollars)

As at Dec. 31—	ASSETS							
	Bank of Canada Deposits and Notes	Canadian Day-to- Day Loans	Treasury Bills	Government of Canada Direct and Guaranteed Bonds	Other Canadian Securities, Insured Residential Mortgages and Loans in Canada	Canadian Dollar Items in Transit (net)	Foreign Cash Items, Securities and Loans	Total Assets ¹
1949.....	753	—	126	2,986	3,392	306	800	8,653
1950.....	810	—	129	2,950	3,922	451	807	9,443
1951.....	892	—	236	2,518	4,052	512	869	9,458
1952.....	899	—	138	2,647	4,355	752	980	10,128
1953.....	888	—	244	2,516	4,878	751	1,064	10,656
1954.....	791	68	360	2,953	4,963	827	1,142	11,433
1955.....	840	81	427	2,632	6,207	1,002	1,127	12,702
1956.....	882	74	740	1,675	6,820	1,330	1,486	13,428
1957.....	866	210	805	1,835	6,953	1,151	1,970	14,244
1958.....	1,001	123	950	2,562	7,365	1,224	2,165	15,840
	LIABILITIES							
	Canadian Dollar Deposits					Foreign Currency Deposits	Share- holders' Equity	Total Liabilities ¹
	Government of Canada	Notice		All Other	Total			
		Personal Savings	Other Notice					
1949.....	164	4,086	347	2,720	7,317	795	353	8,653
1950.....	257	4,176	383	3,164	7,979	835	361	9,443
1951.....	88	4,296	316	3,273	7,973	878	375	9,458
1952.....	49	4,600	325	3,662	8,636	905	381	10,128
1953.....	473	4,756	278	3,603	9,111	963	419	10,656
1954.....	176	5,218	397	3,891	9,683	1,030	521	11,433
1955.....	517	5,633	464	4,234	10,848	1,056	567	12,702
1956.....	246	6,007	444	4,465	11,162	1,369	653	13,428
1957.....	423	6,108	548	4,328	11,407	1,827	732	14,244
1958.....	319	6,844	618	4,909	12,690	2,077	813	15,840

¹ Includes other items not specified.

11.—Detailed Statement of Chartered Bank Assets and Liabilities, as at Dec. 31, 1957 and 1958

Assets and Liabilities	1957	1958
	\$'000	\$'000
Assets—		
Gold and coin in Canada.....	22,522	22,647
Gold and coin outside Canada.....	1,611	1,771
Notes of and deposits with Bank of Canada.....	866,178	1,000,873
Government and bank notes other than Canadian.....	52,613	52,828
Deposits with other banks in Canadian currency.....	5,554	2,618
Deposits with other banks in currencies other than Canadian.....	378,153	344,512
Cheques and other items in transit (net).....	1,161,579	1,217,664
Government of Canada treasury bills.....	804,964	949,705
Other Government of Canada direct and guaranteed securities maturing within two years, not exceeding market value.....	409,853	826,069

11.—Detailed Statement of Chartered Bank Assets and Liabilities, as at Dec. 31, 1957 and 1958—concluded

Assets and Liabilities	1957	1958
	\$'000	\$'000
Assets—concluded		
Government of Canada direct and guaranteed securities maturing after two years, not exceeding market value.....	1,425,370	1,736,016
Canadian provincial government direct and guaranteed securities, not exceeding market value.....	285,011	415,151
Canadian municipal and school corporation securities, not exceeding market value.....	168,273	194,723
Other Canadian securities, not exceeding market value.....	508,753	553,994
Securities other than Canadian, not exceeding market value.....	431,086	493,584
Mortgages and hypothecs insured under the National Housing Act 1954, less provision for estimated loss.....	585,806	789,729
Call and short loans in Canada to brokers and investment dealers, secured.....	400,400	238,793
Call and short loans outside Canada to brokers and investment dealers, secured.....	575,874	612,629
Loans to Canadian provincial governments.....	88,842	68,729
Loans to Canadian municipalities and school corporations, less provision for estimated loss.....	193,081	216,818
Other current loans in Canada, less provision for estimated loss.....	4,930,990	5,008,852
Other current loans outside Canada, less provision for estimated loss.....	519,626	666,324
Non-current loans, less provision for estimated loss.....	1,499	1,382
Bank premises at cost, less amounts written off.....	158,902	177,164
Shares of and loans to corporations controlled by the bank.....	37,984	42,637
Customers' liability under acceptances, guarantees and letters of credit as <i>per contra</i> Other assets.....	224,294	196,988
	4,686	8,074
Totals, Assets.....	14,243,504	15,840,274
Liabilities—		
Deposits by Government of Canada in Canadian currency.....	422,694	319,161
Deposits by Canadian provincial governments in Canadian currency.....	124,992	136,362
Deposits by other banks in Canadian currency.....	108,418	136,726
Deposits by other banks in currencies other than Canadian.....	269,739	427,330
Personal savings deposits payable after notice, in Canada, in Canadian currency.....	6,107,930	6,843,687
Other deposits payable after notice, in Canadian currency.....	547,505	618,396
Other deposits payable on demand, in Canadian currency.....	4,095,483	4,635,915
Other deposits in currencies other than Canadian.....	1,557,240	1,649,181
Advances from Bank of Canada, secured.....	—	2,000
Acceptances, guarantees and letters of credit.....	224,294	196,988
Other liabilities.....	52,804	61,755
Capital paid up.....	211,879	225,609
Rest account.....	511,558	580,542
Undivided profits at latest fiscal year-end.....	8,968	6,642
Totals, Liabilities.....	14,243,504	15,840,274

12.—Canadian Cash Reserves, 1949-58

Note.—For periods prior to July 1954 all figures are daily averages; from July 1954, in accordance with the Bank Act 1954, Bank of Canada deposits are averages of the juridical days in the month shown while Bank of Canada notes and Canadian dollar deposits are averages of the four consecutive Wednesdays ending with the second last Wednesday in the previous month.

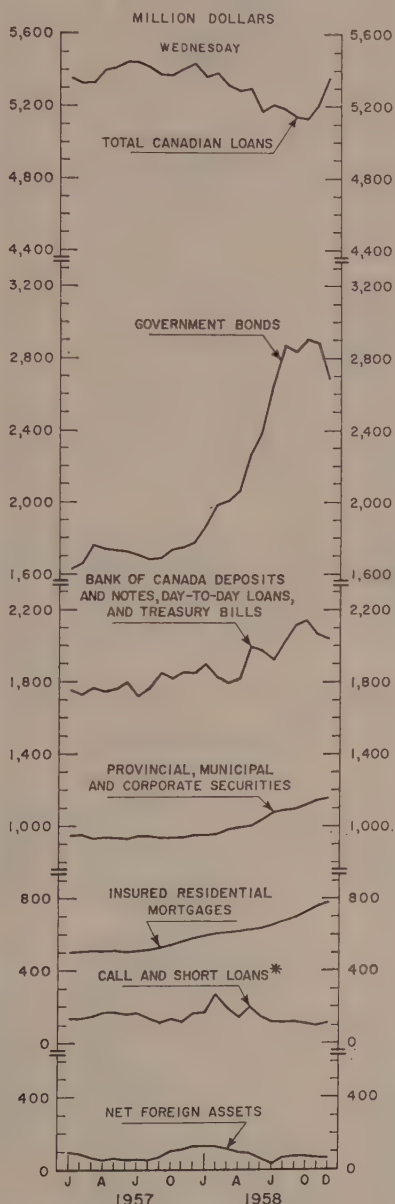
(Millions of dollars)

Year	Cash Reserves			Canadian Dollar Deposit Liabilities ¹	Average Cash Reserve Ratio ²
	Bank of Canada Deposits	Bank of Canada Notes	Total		
1949.....	550	196	746	7,178	10.4
1950.....	548	207	755	7,487	10.1
1951.....	567	225	792	7,759	10.2
1952.....	606	239	844	8,110	10.4
1953.....	627	256	883	8,624	10.2
1954—January to June.....	634	260	894	8,820	10.1
1954—July to December.....	525	286	811	9,097	8.9
1955.....	541	293	834	9,915	8.4
1956.....	548	325	873	10,527	8.3
1957.....	535	335	870	10,601	8.2
1958.....	607	336	943	11,542	8.2

¹ From July 1954 the figures are not adjusted for items in transit and are not strictly comparable with the figures for earlier periods. ² Prior to July 1, 1954, the statutory minimum requirement was 5 p.c. for each day; since that date it has been a monthly average of 8 p.c.

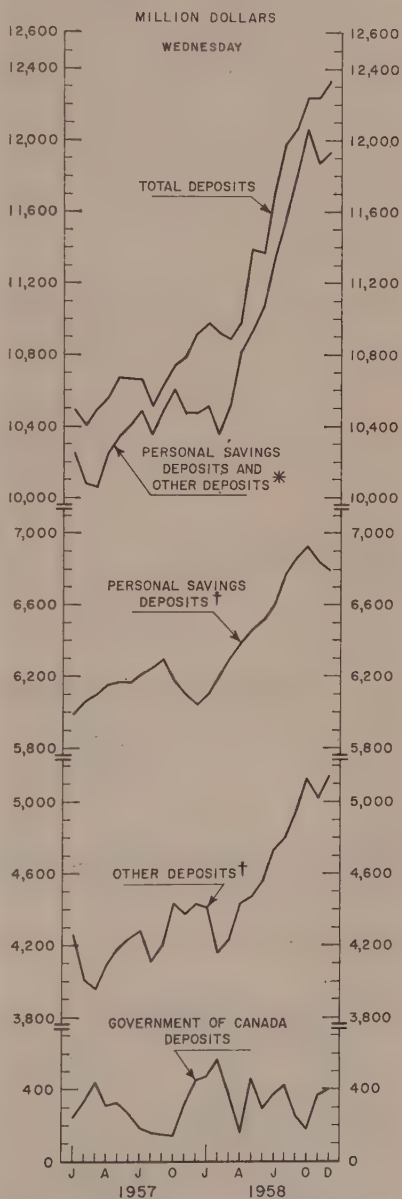
ASSETS AND LIABILITIES OF CHARTERED BANKS, 1957-58

MAJOR ASSETS



* Excluding Canadian day-to-day loans.

DEPOSIT LIABILITIES



* Excludes Government of Canada deposits.

† The deposit balances of religious, educational and welfare institutions and personal accounts used mainly for business purposes were reclassified from "personal saving deposits" to "other deposits" as at Sept. 30, 1957. The amount of deposits reclassified was approximately \$140,000,000.

Liquid Asset Ratio.—In the course of discussions with the chartered banks in November and December 1955, the Bank of Canada urged the adoption of a standard practice regarding the maintenance of a minimum ratio of liquid assets (cash, day-to-day loans and treasury bills) to deposits. The purpose of this suggestion was to establish a working principle of bank operations which would help the central bank in the task of restraining inflationary pressures that might threaten in the future. After discussion the banks agreed to work to achieve by May 31, 1956, a minimum liquid asset ratio of 15 p.c. which they would endeavour to maintain on a daily average basis from June on. On this basis, fluctuations above or below 15 p.c. might occur from day to day or week to week, but for the month as a whole the average would not be below the target ratio. From June 1956 the banks have maintained a daily average ratio of at least 15 p.c.

13.—Classification of Chartered Bank Deposit Liabilities Payable to the Public in Canada in Canadian Currency, as at Sept. 30, 1957 and 1958

Deposit Accounts of the Public of—	1957			1958		
	Personal Savings Deposit Accounts	Other Deposit Accounts of the Public	Total Deposit Accounts of the Public	Personal Savings Deposit Accounts	Other Deposit Accounts of the Public	Total Deposit Accounts of the Public
	No.	No.	No.	No.	No.	No.
Less than \$100.....	4,866,268	761,023	5,627,291	5,005,640	873,840	5,879,480
\$100 or over but less than \$1,000.....	2,949,492	612,645	3,562,137	2,987,386	686,009	3,673,395
\$1,000 or over but less than \$10,000.....	1,355,253	286,735	1,641,988	1,478,700	308,924	1,787,624
\$10,000 or over but less than \$100,000.....	57,452	49,132	106,584	68,511	54,054	122,565
\$100,000 or over.....	814	5,397	6,211	905	6,179	7,084
Totals, Deposits.....	9,229,279	1,714,932	10,944,211	9,541,142	1,929,006	11,470,148

14.—Classification of Chartered Bank Loans in Canadian Currency, as at Dec. 31, 1957 and 1958

Class of Loan	1957	1958
	\$'000,000	\$'000,000
General Loans—		
Personal.....	725.1	897.5
To individuals, fully secured by marketable bonds and stocks.....	266.6	287.0
Home improvement loans.....	48.0	67.6
To individuals, not elsewhere classified.....	410.5	542.9
Farmers—		
Farm Improvement Loans Act.....	125.4	139.3
Other farm loans.....	223.7	228.5
Industry.....	1,309.7	1,165.9
Chemical and rubber products.....	71.2	63.4
Electrical apparatus and supplies.....	55.4	54.6
Foods, beverages and tobacco.....	234.6	207.7
Forest products.....	207.6	155.1
Furniture.....	20.3	21.2
Iron and steel products.....	164.7	156.7
Mining and mine products.....	169.1	135.3
Petroleum and products.....	108.9	98.9
Textiles, leather and clothing.....	150.3	139.4
Transportation equipment.....	68.6	73.4
Other products.....	61.9	60.3
Merchandisers.....	724.5	699.3
Construction contractors.....	253.5	261.9
Public utilities, transportation and communications.....	173.1	134.2
Other business.....	412.7	471.7
Religious, educational, health and welfare institutions.....	115.0	139.6
Totals, General Loans.....	4,062.7	4,137.8

14.—Classification of Chartered Bank Loans in Canadian Currency, as at Dec. 31, 1957 and 1958—concluded

Class of Loan	1957	1958
	\$'000,000	\$'000,000
Other Loans—		
Provincial governments.....	88.9	68.7
Municipal governments and school districts.....	193.1	216.8
Stockbrokers.....	57.5	54.2
Investment dealers.....	133.0	61.5
Loans to finance the purchase of Canada Savings Bonds.....	176.1	169.4
Grain dealers and exporters.....	412.4	351.0
Instalment and other finance companies.....	281.2	352.0
Totals, Other Loans.....	1,342.2	1,273.7
Grand Totals, Loans in Canadian Currency.....	5,404.9	5,411.5

15.—Chartered Bank Earnings, Expenses and Additions to Shareholders' Equity, Fiscal Years Ended in 1954-58

NOTE.—In 1954 the financial years of seven banks ended on Oct. 31, two on Nov. 30 and two on Sept. 30; in 1955 the financial years of eight banks ended on Oct. 31, two on Nov. 30 and one on Sept. 30; in 1956, 1957 and 1958 the financial years of six banks ended on Oct. 31, two on Nov. 30 and one on Sept. 30.

(Millions of dollars)

Item	1954 ¹	1955	1956	1957	1958
Current Operating Earnings—					
Interest and discount on loans.....	219.3	236.3	314.2	380.6	386.9
Interest, dividends and trading profits on securities ²	124.3	128.4	102.8	118.4	160.5
Exchange, commission, service charges and other current operating earnings.....	81.9	89.0	96.5	109.5	126.0
Totals, Current Operating Earnings.....	425.5	453.7	513.5	608.5	673.4
Current Operating Expenses—³					
Interest on deposits.....	91.5	105.2	129.1	183.4	203.4
Remuneration to employees.....	143.6	153.1	167.8	188.3	198.0
Contributions to pension funds.....	13.6	13.6	14.0	13.8	12.3
Provision for depreciation of bank premises.....	9.0	10.1	11.4	12.7	14.3
Other current operating expenses ⁴	63.5	70.1	77.5	86.0	91.9
Totals, Current Operating Expenses³.....	321.2	352.1	399.8	484.2	519.9
Net current operating earnings⁵.....	104.3	101.6	113.7	124.3	153.5
Capital profits and non-recurring items ⁶	1.8	—0.6	3.1	0.4	1.5
Less provision for losses and addition to inner reserves, net ⁶	—52.9	22.5	14.1	2.8	16.0
Less provision for income taxes ⁷	68.0	37.2	41.7	56.6	69.6
Leaving for dividends and shareholders' equity.....	81.0	41.3	61.0	65.3	69.4
Dividends to shareholders.....	21.5	26.2	31.9	35.4	40.0
Addition to shareholders' equity.....	59.5	15.1	29.1	29.9	29.4
ADDITIONS TO SHAREHOLDERS' EQUITY					
Undivided Profits—					
From operating earnings, net after transfers to rest account.....	2.5	2.4	—5.7	3.2	—1.5
Rest Account—					
From operating earnings and undivided profits.....	9.0	8.7	15.9	8.0	14.2
From retransfers from inner reserves.....	48.0	4.0	19.0	18.7	16.8
From premium on new shares.....	29.9 ⁸	19.8	42.1	33.3	28.6
Capital Paid Up—					
From issue of new shares.....	16.2 ⁸	13.7	14.2	16.5	10.5
NET ADDITION TO SHAREHOLDERS' EQUITY.....	105.7	48.6	85.5	79.7	68.6

¹ Includes figures for an 11-month period for two banks (accounting on the average for 7.3 p.c. of total bank assets) that changed their financial year-ends from Nov. 30 to Oct. 31. ² Realized profits and losses on disposal of securities are included in operating earnings. ³ Before provision for income taxes, losses, and transfers to inner reserves. ⁴ Includes taxes other than income taxes. ⁵ Profits and losses on sale of fixed assets and adjustments relating to prior years. ⁶ After amounts retransferred to rest account. ⁷ Includes income taxes on taxable portion of additions to and amounts retransferred from inner reserves, and foreign income taxes. ⁸ Including increases of \$400,000 in rest account and \$1,500,000 in capital paid up which represented the capital of a bank that commenced business in December 1953.

Cheque Payments.—A monthly record of the amounts of cheques charged to customer accounts at all chartered bank offices in 35 major clearing-house centres of Canada is available from 1924. Except for a minor setback in 1938, the value of cheques cashed shows a continuously upward trend from 1932, the low point of the depression years. The total of \$221,289,954,000 in 1958 was a record, 616 p.c. greater than in 1938; the increase equalled the gain in gross national product during the same period. The advance was well distributed throughout Canada's five economic areas. British Columbia showed the largest gain in this comparison with an increase of 739 p.c. The Prairie Provinces were second with an advance of 654 p.c., followed in order by Ontario, the Atlantic Provinces and Quebec.* As compared with 1957, four of the five areas showed gains, with Ontario accounting for nearly 65 p.c. of the \$15,938,000,000 advance.

Value of cheques cashed in 28 centres was higher in 1958 than in 1957. Payments in the two leading centres reached all-time peaks, Toronto advancing nearly 12 p.c. and Montreal over 5 p.c. In the same comparison Winnipeg rose 16.5 p.c. and Vancouver declined nearly 3 p.c.

* St. John's, Nfld., was included in the 1958 figure but not in 1938 data. Excluding this centre in 1958 the ranking would be: British Columbia, the Prairie Provinces, Ontario, Quebec and the Maritime Provinces.

16.—Cheques Cashed at 35 Clearing-House Centres, 1954-58

NOTE.—Figures for earlier years will be found in the corresponding table of previous Year Books.

Clearing-House Centre	1954	1955	1956	1957	1958
	\$	\$	\$	\$	\$
Atlantic Provinces	3,483,572,588	3,623,885,796	4,136,063,557	4,253,883,344	4,438,573,264
Halifax.....	1,578,537,898	1,627,402,746	1,900,368,542	1,862,262,193	1,952,996,188
Moncton.....	516,387,794	558,648,038	616,097,610	610,987,505	644,872,078
Saint John.....	686,419,892	720,696,563	824,915,065	974,094,965	974,038,472
St. John's.....	702,227,004	717,138,449	794,682,340	806,538,681	866,665,926
Quebec	42,853,000,654	47,931,766,648	57,635,780,762	60,153,465,596	63,318,151,553
Montreal.....	38,498,287,577	43,262,348,510	52,524,281,929	54,937,929,994	57,779,113,688
Quebec.....	3,946,839,332	4,220,646,837	4,575,848,864	4,675,308,837	4,994,969,283
Sherbrooke.....	407,873,745	448,771,301	535,649,969	540,226,765	544,068,582
Ontario	65,614,571,762	71,973,447,183	84,580,096,136	92,469,365,362	102,798,608,161
Brantford.....	494,781,493	529,527,130	596,455,633	587,964,512	611,025,605
Chatham.....	403,893,774	425,388,521	448,947,214	552,228,607	639,882,625
Cornwall.....	214,915,773	292,898,906	387,278,729	405,239,116	400,904,549
Fort William.....	310,230,256	354,323,721	410,549,615	455,892,329	458,694,532
Hamilton.....	3,175,436,695	3,556,484,589	4,179,292,551	4,355,968,082	4,681,253,378
Kingston.....	366,274,947	419,087,713	464,435,514	449,613,360	499,922,445
Kitchener.....	766,279,900	817,143,240	940,310,341	978,856,453	1,050,153,291
London.....	2,047,498,306	2,055,087,653	2,279,949,005	2,489,582,356	2,756,333,193
Ottawa.....	3,415,300,005 ¹	3,267,767,785 ¹	3,567,496,334 ¹	3,823,157,651 ¹	4,823,536,910 ¹
Peterborough.....	368,850,304	380,474,408	515,640,907	533,262,032	534,560,585
St. Catharines.....	616,343,148	683,520,885	780,623,214	795,132,217	800,628,561
Sarnia.....	434,253,776	476,917,287	552,812,970	571,839,628	589,935,036
Sudbury.....	444,396,796	497,174,554	580,450,567	641,458,123	613,036,685
Toronto.....	50,646,604,608	55,628,552,603	66,301,163,713	73,497,632,683	82,217,905,492
Windsor.....	1,909,512,281	2,589,098,188	2,574,689,829	2,381,538,033	2,120,835,274
Prairie Provinces	24,155,325,487	25,008,924,359	30,706,483,084	32,060,426,593	34,490,157,168
Brandon.....	184,748,103	191,777,756	217,917,059	222,033,280	229,039,246
Calgary.....	4,985,475,389	5,415,909,240	7,280,076,762	8,319,489,021	7,646,109,483
Edmonton.....	3,609,993,451	4,051,760,277	4,728,775,559	4,876,156,389	5,149,338,883
Lethbridge.....	344,029,413	354,898,604	401,410,718	421,533,161	441,664,205
Medicine Hat.....	142,905,140	146,543,311	176,626,478	193,144,298	201,480,020
Moose Jaw.....	311,252,949	295,191,500	324,438,043	340,909,600	392,210,021
Prince Albert.....	160,153,483	155,489,736	165,300,168	185,407,182	204,350,582
Regina.....	2,297,905,822	2,395,122,040	2,885,106,529	3,233,572,111	3,622,192,049
Saskatoon.....	701,960,040	708,209,073	773,856,439	849,665,271	971,923,570
Winnipeg.....	11,416,901,697	11,294,022,822	13,752,975,329	13,418,516,280	15,631,849,109
British Columbia	11,956,325,458	12,812,853,961	15,231,472,672	16,621,305,755	16,214,463,967
New Westminster.....	608,576,723	673,630,786	716,803,680	742,204,569	824,007,009
Vancouver.....	9,752,576,977	10,398,019,050	12,579,751,243	13,523,017,398	13,143,565,802
Victoria.....	1,595,171,758	1,741,204,125	1,934,917,749	2,356,083,788	2,276,891,156
Totals	148,062,795,949	161,350,877,947	192,289,896,211	205,558,446,650	221,289,954,113

¹ Includes some debits reported in preceding years.

Subsection 2.—Government and Other Banking Institutions

There are three distinct types of savings banks in Canada in addition to the savings departments of the chartered banks and of trust and loan companies: (1) the Post Office Savings Bank, in which deposits are a direct obligation of the Government of Canada; (2) Provincial Government savings banking institutions in Newfoundland, Ontario and Alberta, where the depositor becomes a direct creditor of the province; and (3) two important savings banks in the Province of Quebec—the Montreal City and District Savings Bank and La Banque d'Économie de Québec—established under federal legislation and reporting monthly to the Federal Department of Finance. In addition, co-operative credit unions encourage savings among low-income classes and extend small loans to their members.

Post Office Savings Bank.—The Post Office Savings Bank was established under the Post Office Act of 1867 (31 Vict., c. 10) to "enlarge the facilities now available for the deposit of small savings, to make the Post Office available for that purpose, and to give the direct security of the nation to every depositor for repayment of all money deposited by him together with the interest due thereon". Branches of the Government of Canada's Savings Bank under the Department of Finance were gradually amalgamated with this Bank over a period of 50 years and the amalgamation was completed in March 1929. Summary financial statistics for the years ended Mar. 31, 1954-58, follow. Figures back to 1868 are available in previous editions of the Year Book.

<i>Item</i>	<i>1954</i>	<i>1955</i>	<i>1956</i>	<i>1957</i>	<i>1958</i>
	\$	\$	\$	\$	\$
Deposits and Interest.....	11,330,055	10,115,308	9,940,163	10,416,886	9,949,749
Deposits.....	10,597,048	9,402,227	9,241,383	9,663,774	9,097,664
Interest on deposits.....	733,009	713,081	698,776	753,112	852,085
Withdrawals.....	12,859,370	11,127,555	10,556,369	10,662,847	10,972,519
Balance on deposit.....	37,792,914	36,780,667	36,164,460	35,918,499	34,895,729

Provincial Government Savings Banks.—Institutions for the deposit of savings are operated by the Provincial Governments of Newfoundland, Ontario and Alberta.

Newfoundland.—The Newfoundland Savings Bank was established in 1834 and the following is a summary financial statement for the years ended Mar. 31, 1956-59.

<i>Item</i>	<i>1956</i>	<i>1957</i>	<i>1958</i>	<i>1959</i>
	\$	\$	\$	\$
Interest on investments, etc.....	953,547	972,347	951,295	974,296
Net rental income.....	3,195	2,849	3,611	2,585
Profit or loss on sale of investments.....	37,808	-1,664	-86,680	-116,181
Less interest on deposits.....	734,972	748,780	758,257	766,786
Less expenses.....	53,843	56,716	65,597	74,009
Less transfer to reserves.....	31,074	31,118	31,137	6,307
NET INCOME.....	174,661	136,913	13,235	13,598

The number of accounts decreased from 35,527 at Mar. 31, 1958, to 35,187 at the same date of 1959; deposits increased from \$27,607,959 to \$28,307,692 in the same comparison. On Apr. 1, 1957, the interest rates payable on deposits of private individuals, trust funds and estates were increased from 2½ p.c. to 3 p.c. per annum in respect of all amounts in excess of \$5,000.

Ontario.—The establishment of the Province of Ontario Savings Office was authorized by the Ontario Legislature at the 1921 Session and the first branches were opened in March 1922. Interest at the rate of $2\frac{1}{2}$ p.c. and $2\frac{3}{4}$ p.c. per annum, compounded half-yearly, is paid on accounts, and deposits are repayable on demand. Total deposits at Mar. 31, 1958, were \$81,400,000 and the number of depositors was approximately 97,000. Twenty-one branches were in operation throughout the province.

Alberta.—Savings deposits are accepted at 49 Provincial Treasury Branches throughout Alberta. The total of these deposits at Mar. 31, 1958, was \$25,952,879, payable on demand and bearing interest at $2\frac{3}{4}$ p.c. per annum.

The Provincial Treasury has issued demand certificates bearing interest at $1\frac{1}{2}$ p.c. or term certificates for one, two, three, four or five years in denominations of \$25 and upwards, bearing interest at 2 p.c. for one or two years, $2\frac{1}{2}$ p.c. for three or four years and $2\frac{3}{4}$ p.c. for five years. The total amount in savings certificates at Mar. 31, 1958, was \$1,960, made up of \$860 in demand certificates and \$1,100 in term certificates. Deposits from the public for the purchase of such certificates were discontinued as of April 1951.

Quebec Savings Banks.—The Montreal City and District Savings Bank, founded in 1846 and now operating under a charter of 1871 had, at Mar. 31, 1958, a paid-up capital and reserve of \$8,750,000, savings deposits of \$227,342,163 and total liabilities of \$238,473,115. Total assets amounted to \$238,473,115, including over \$161,000,000 of federal, provincial and municipal securities. La Banque d'Économie de Québec, founded in 1848 (as La Caisse d'Économie de Notre-Dame de Québec) under the auspices of the St. Vincent de Paul Society, incorporated by Act of the Canadian Legislature in 1855 and given a federal charter by 34 Vict., c. 7, had, at Mar. 31, 1958, savings deposits of \$39,243,261 and a paid-up capital and reserve of \$3,000,000. Liabilities amounted to \$47,406,437 and total assets to a like amount.

The following statement shows the combined savings deposits in the Montreal City and District Savings Bank and La Banque D'Économie de Québec for the years ended Mar. 31, 1949-58. Figures back to 1868 are available in previous editions of the Year Book.

<i>Year</i>	<i>Deposits</i>	<i>Year</i>	<i>Deposits</i>
	\$		\$
1949.....	184,250,615	1954.....	219,372,081
1950.....	192,567,275	1955.....	237,816,198
1951.....	193,982,871	1956.....	256,526,482
1952.....	200,342,385	1957.....	255,000,311
1953.....	214,122,001	1958.....	266,585,424

Credit Unions.*—Credit unions are incorporated under provincial law to enable groups of people with a common bond of association to pool their savings. Their importance among the savings and loan institutions in Canada continued to grow in 1957 with a membership increase of over 200,000. Thirty-eight per cent of the credit unions are rural. Membership has passed 2,000,000 with assets of \$846,000,000 or an average per member of \$400. The number of credit unions has almost doubled during the postwar period and the membership has increased threefold. Almost half of the membership is in Quebec and Ontario. In the former province assets are mostly held in the form of deposits, while in Ontario the major part of the assets are in shares.

Loans are granted to members for provident and productive purposes from the accumulated pooled savings and are mostly secured by personal notes. Loans to members in 1957 amounted to \$351,431,148, at interest rates of 1 p.c. per month or less on the unpaid balance. There were 27 central credit unions in 1957 having the main purpose of acting as credit unions for credit unions, namely, to receive deposits from and make loans to individual credit unions. These centrals are incorporated under provincial legislation to facilitate the flow of funds to credit unions that cannot meet the demand for local loans. Some of these central credit unions admit co-operative associations to membership but most of them limit their membership to credit unions.

* Prepared by the Economics Division, Marketing Service, Department of Agriculture, Ottawa.

The Canadian Co-operative Society serves as a central credit union for provincial centrals and co-operatives all across Canada.

17.—Credit Unions in Canada, 1948-57

Year	Credit Unions Chartered	Credit Unions Reporting	Members ¹	Assets ¹
	No.	No.	No.	\$
1948.....	2,608	2,482	850,608	253,584,282
1949 ²	2,819	2,705	940,427	282,242,278
1950.....	2,965	2,801	1,036,175	311,532,143
1951.....	3,121	2,952	1,137,931	358,646,767
1953.....	3,335	3,080	1,260,435	424,400,375
1953.....	3,606	3,413	1,434,270	489,266,090
1954.....	3,920	3,690	1,560,715	552,362,571
1955.....	4,100	3,899	1,731,328	652,553,665
1956 ²	4,253	3,873	1,870,227	761,255,685
1957.....	4,396	4,060	2,084,658	846,264,367

¹ Reporting organizations only.

² Newfoundland included from 1949.

18.—Summary Statistics of Credit Unions, by Province, 1956 and 1957

Year and Province	Credit Unions Chartered	Credit Unions Reporting	Members ¹	Assets ¹	Shares ¹	Deposits ¹	Loans to Members during Year ¹	Total Loans since Inception ¹
	No.	No.	No.	\$	\$	\$	\$	\$
1956								
Newfoundland.....	70	55	3,745	360,447	311,940	11,122	210,689	3,359,592
P. E. Island.....	59	59	9,750	1,283,152	1,052,901	103,850	727,533	7,933,400
Nova Scotia.....	221	190	51,824	9,656,665	8,665,556	224,149	6,095,032	51,452,190
New Brunswick.....	166	164	73,196	10,731,952	9,716,736	122,352	5,704,088	44,767,804
Quebec—								
Desjardins.....	1,160	1,150	932,469	464,582,293	30,750,101	404,894,750	120,002,792	924,295,119
Que. League.....	197	192	53,586	13,172,608	10,341,097	1,915,490	7,200,000	34,323,196
Montreal Fed'n.....	14	14	33,539	27,385,693	1,686,945	23,975,503	6,137,991	46,882,553
Ontario.....	1,337	1,158	373,854	107,065,518	73,240,418	20,673,057	81,684,091	412,968,316
Manitoba.....	196	190	60,491	18,740,928	13,067,333	3,419,804	13,925,440	74,903,221
Saskatchewan.....	283	278	86,036	38,646,038	28,798,162	6,512,309	17,775,838	131,304,432
Alberta.....	243	233	49,378	13,781,244	11,673,328	925,817	10,538,680	58,741,664
British Columbia.....	307	290	142,359	55,849,147	42,818,127	5,652,258	39,679,655	179,616,486
Totals, 1956.....	4,253	3,973	1,870,227	761,255,685	232,122,644	468,430,461	309,681,829	1,970,547,973
1957								
Newfoundland.....	72	49	3,235	340,469	290,288	13,209	263,134	3,621,161
P. E. Island.....	59	49	9,514	1,366,271	1,109,404	101,572	256,152	8,189,552
Nova Scotia.....	212	196	53,545	10,817,101	9,723,888	249,093	6,911,154	58,363,343
New Brunswick.....	164	160	76,219	12,167,057	10,908,758	129,294	6,510,708	51,278,507
Quebec—								
Desjardins.....	1,181	1,169	1,013,400	504,654,413	33,187,976	443,920,868	112,304,113	1,040,000,000
Que. League.....	213	185	69,925	14,782,294	8,299,092	4,898,442	15,225,370	49,548,566
Montreal Fed'n.....	17	17	38,967	32,067,586	2,120,276	27,945,296	7,451,700	53,225,305
Ontario.....	1,415	1,205	443,791	123,874,804	84,739,164	23,918,727	105,792,214	447,806,342
Manitoba.....	210	207	67,076	22,424,526	16,280,974	3,604,970	16,285,335	91,168,621
Saskatchewan.....	284	275	92,981	44,825,002	33,685,152	7,631,948	20,666,556	152,699,709
Alberta.....	252	241	55,126	16,176,291	13,760,025	844,182	11,671,406	70,412,070
British Columbia.....	317	307	160,879	62,768,553	51,435,638	3,449,264	48,113,311	203,406,229
Totals, 1957.....	4,396	4,060	2,084,658	846,264,367	265,540,635	516,706,865	351,431,148	2,229,719,405

¹ Reporting organizations only.

Section 4.—Foreign Exchange

The dollar, established officially as the currency of the united provinces of Canada on Jan. 1, 1858, and extended to cover the New Dominion by the Uniform Currency Act of 1870, was defined as 15/73 of the British gold sovereign.* That is, the par rate of exchange between the dollar and the pound sterling was fixed at \$4.866, making the

* The gold sovereign remained the standard for the Canadian dollar until 1910 when the currency was defined in terms of fine gold, making it the exact gold equivalent of the United States dollar. Both British and United States gold coins were, however, legal tender in Canada for this whole period.

Canadian currency the equivalent of the United States dollar at parity. With minor variations between the import and export gold points representing the cost of shipping gold in either direction, the value of the pound sterling in Canada remained at this level until the outbreak of World War I. The United States dollar, on the other hand, was at a discount in terms of Canadian funds for the first eleven years after Confederation since it was not redeemable in gold from February 1862 to January 1879. On the basis of gold equivalents it would appear that the greatest monthly average discount on the United States dollar after Confederation was approximately 31 p.c., reached in August 1868. From 1879 to 1914 the dollars of the two countries remained at par, varying only within the gold points or under \$2 per thousand.

On the outbreak of World War I, Canada and the United Kingdom suspended the gold standard. For some weeks both the pound and the Canadian dollar rose to a premium in New York. Subsequently both fell back with the pound going to a slight discount. In January 1916 the pound was officially pegged at \$4.76 in American funds. This level was maintained with the help of funds realized by sales of United States securities owned by residents of the United Kingdom, by borrowing in the United States and, after the American entry into the War, by the United States Government financing Allied purchases in that country.

From 1915 to the end of 1917 fluctuations in the rate of exchange between the Canadian and United States dollars did not exceed 2 p.c. on either side of parity; the pound was stable in terms of United States dollars during this period. In 1918 the Canadian dollar began to weaken. After the pound was unpegged in 1919 the Canadian dollar declined further and in 1920 it fell to 82 cents in New York with sterling going as low as \$3.18.

By the latter half of 1922 the Canadian dollar had returned practically to par in New York. Despite some further weakness in sterling, the dollar remained close to that level during the next two years, averaging 98.04 and 98.73 cents in terms of the United States dollar in 1923 and 1924, respectively, and fluctuating between a discount of about 3.6 cents and a premium of approximately 0.4 cents. After the United Kingdom resumed gold payments in April 1925, the range of fluctuation of the Canadian dollar narrowed further. From Canada's return to the gold standard in the period July 1, 1926 to January 1929, the exchange rate remained within the gold points. The Canadian dollar then went to a slight discount in New York. With the exception of the period July to November 1930, when it went to a small premium in New York, the dollar remained below parity until the United Kingdom abandoned the gold standard in September 1931. After that month the pound sterling depreciated sharply and the Canadian dollar followed, reaching lows* in New York of 80.5 cents in December 1931 and 82.6 cents in April 1933.

Following the prohibition of gold exports in the latter month by the United States, the pound and the Canadian dollar strengthened rapidly in terms of American funds. By November 1933, both currencies had reached a premium in New York. Meanwhile in a series of steps beginning with permitting the export of newly mined gold in August 1933, the United States moved towards resumption of the gold standard. As of Feb. 1, 1934, the United States Treasury undertook to buy all gold offered at \$35 per ounce. After that the exchange rate between the Canadian and United States dollar stabilized. Until the outbreak of war in 1939 much of the trading was conducted within one cent of parity although the Canadian dollar in New York did go as high as 103.6 cents (September 1934) and as low as 98.0 cents (September 1938).*

On the outbreak of World War II in September 1939, the United Kingdom and other sterling countries introduced foreign exchange control involving fixed buying and selling rates of \$4.02½ and \$4.03½, respectively, in terms of the U.S. dollar. The Canadian dollar in New York declined until Sept. 16, 1939, when the Government instituted foreign exchange control† in Canada and established fixed buying and selling rates of \$1.10 to

* Noon quotations. Daily highs and lows may have exceeded these rates.

† The operations of the Foreign Exchange Control Board from the time of its establishment to the termination of exchange control in December 1951 are reviewed in previous editions of the Year Book.

\$1.11 for the U.S. dollar and \$4.43 to \$4.47 for sterling. As compared with previous months, the depreciation of the Canadian dollar in terms of United States funds was approximately half as great as that of the pound sterling.

Apart from a minor adjustment on Oct. 15, 1945, when selling rates for U.S. dollars and sterling were lowered to \$1.10½ and \$4.45, respectively, the official rates for the Canadian dollar remained unchanged until July 5, 1946. At that time the rate on the U.S. dollar was restored to par, with buying and selling rates for that currency of \$1.00 to \$1.00½ and for sterling \$4.02 to \$4.04. These rates continued in effect until Sept. 19, 1949, when, following a 30.5-p.c. reduction by the United Kingdom in the value of sterling to \$2.80 U.S. (an action which was paralleled in varying degrees by numerous other currencies), Canada returned to the former official rates of \$1.10 and \$1.10½ for United States funds. Sterling was quoted at \$3.07½ and \$3.08½ on the basis of the New York cross rate.

On Sept. 30, 1950, the Minister of Finance announced that official fixed foreign exchange rates which had been in effect at varying levels since 1939 would be withdrawn effective Oct. 2. Since then the Government's policy has been to allow the rate to be determined by the normal play of economic forces without official intervention by the Exchange Fund Account except to ensure orderly conditions in the foreign exchange market. No attempt is made to reverse persistent trends, but only to smooth out excessive short-run fluctuations.

Until Dec. 14, 1951, this policy was carried out within the framework of exchange control. On that date the Foreign Exchange Control regulations were revoked by the Governor in Council and new regulations were passed which exempted all persons and transactions from the various requirements of the Foreign Exchange Control Act. These actions terminated exchange control in Canada and the Foreign Exchange Control Act was repealed in 1952.

The movements of the U.S. dollar in Canadian funds from January 1951 to the end of 1958 are shown in Table 19. After the major change that occurred early in 1952, the U.S. dollar fluctuated within a comparatively narrow range between a low of 95.98 cents in September 1952 and a high of 99.95 in December 1955. In the second quarter of 1956, however, the U.S. dollar began to weaken and this movement continued into the third quarter of 1957. The previous postwar low (95.9 cents) was passed in February 1957 and by August 1957 the U.S. dollar had fallen to 94.8 cents, a record low for the present century. In the last four months of 1957 the U.S. dollar rose again, reached 98.47 cents in January 1958 and closed the year at 96.46.

19.—Price of the United States Dollar in Canada, by Month, 1951-58

NOTE.—Rates published by Bank of Canada. Noon average market rate for business days in period.

(Canadian cents per U.S. dollar)

Month	1951	1952	1953	1954	1955	1956	1957	1958
January.....	105.17	100.48	97.05	97.29	96.60	99.87	96.07	98.47
February.....	104.92	100.10	97.73	96.65	97.69	99.91	95.83	98.10
March.....	104.73	99.59	98.33	97.08	98.43	99.87	95.61	97.73
April.....	105.99	98.09	98.37	98.25	98.62	99.68	95.97	97.06
May.....	106.37	98.38	99.41	98.43	98.59	99.18	95.56	96.69
June.....	106.94	97.92	99.44	98.13	98.44	98.53	95.32	96.18
July.....	106.05	96.91	99.18	97.44	98.46	98.18	95.09	96.00
August.....	105.56	96.11	98.83	97.02	98.51	98.12	94.80	96.46
September.....	105.56	95.98	98.43	96.97	98.78	97.77	95.92	97.68
October.....	105.08	96.43	98.25	96.98	99.53	97.32	96.47	97.07
November.....	104.35	97.66	97.77	96.92	99.94	96.44	96.24	96.83
December.....	102.56	97.06	97.31	96.80	99.95	96.05	97.74	96.46
Annual Average.....	105.28	97.89	98.34	97.32	98.63	98.41	95.88	97.06

20.—Canada's Holdings of Gold and United States Dollars, as at Dec. 31, 1941-58

(Millions of U.S. dollars)

Year	Exchange Fund Account and Bank of Canada		Other Government Account of Canada Accounts	Total	Year	Exchange Fund Account and Bank of Canada		Other Government Account of Canada Accounts	Total
	Gold	U.S. Dollars	U.S. Dollars	Gold and U.S. Dollars		Gold	U.S. Dollars	U.S. Dollars	Gold and U.S. Dollars
1941.....	135.9	28.2	23.5	187.6	1951.....	841.7	899.5	37.4	1,778.6
1942.....	154.9	88.0	75.6	318.5	1952.....	885.0	961.8	13.4	1,860.2
1943.....	224.4	348.8	76.4	649.6	1953.....	986.1	802.0	30.4	1,818.5
1944.....	293.9	506.2	102.1	902.2	1954.....	1,072.7	833.4	36.5	1,942.6
1945.....	353.9	922.0	232.1	1,508.0	1955.....	1,133.9	692.0	74.9	1,900.8
1946.....	536.0	686.3	22.6	1,244.9	1956.....	1,103.3	783.7	49.2	1,936.2
1947.....	286.6	171.8	43.3	501.7	1957.....	1,100.3	691.5	36.5	1,828.3
1948.....	401.3	574.5	22.0	997.8					
1949.....	486.4	594.1	36.6	1,117.1 ¹					
1950.....	580.0	1,144.9	16.6	1,741.5	1958.....	1,078.1	861.0		1,939.1

¹ Excludes \$18,200,000 borrowed in the United States in August 1949 and set aside for the retirement on Feb. 1, 1950, of a security issue guaranteed by the Federal Government and payable at the holder's option in U.S. dollars.

PART II.—MISCELLANEOUS COMMERCIAL FINANCE

Section 1.—Loan and Trust Companies*

An outline of the development of loan and trust companies in Canada from 1844 to 1913 is given in the 1934-35 Year Book, p. 993. The laws relating to loan and trust companies were revised by the Loan and Trust Companies Acts of 1914 (R.S.C. 1952, cc. 170 and 272), with the result that the statistics of provincially incorporated loan and trust companies ceased to be collected. However, summary information has been supplied by provincial companies since 1922 and figures for the years 1956 and 1957 are included in Table 1 in order to complete the statistics for loan and trust companies throughout Canada. It is estimated that more than 95 p.c. of the business of provincial companies is represented in the figures, so that they may be accepted as fairly inclusive and representative of the volume of business transacted as compared with the federally licensed companies.

The statistics of Tables 2 and 3 refer to those companies incorporated both by the Government of Canada and by the provinces. Included in the statistics of federal companies are data of loan and trust companies incorporated by the Province of Nova Scotia and brought by the laws of that province under the examination of the federal Department of Insurance, as well as data for trust companies in New Brunswick and Manitoba.

The progress of the aggregate of loan company business in Canada is indicated by the increase in the book value of the assets of all loan companies from \$188,186,072 in 1923 to \$549,071,796 in 1957. The assets of trust companies (not including estates, trust and agency funds, which cannot be regarded as assets in the same sense as company and guaranteed funds) increased from \$154,202,165 in 1928 to \$785,744,424 in 1957. In the former year the total of estates, trust and agency funds administered amounted to \$1,077,953,643 and in 1957 to \$5,582,378,426.

Functions of Loan Companies.—The principal function of loan companies is the lending of funds on first-mortgage security, the money thus made available for development purposes being secured mainly by the sale of debentures to the investing public and by savings department deposits. The extent of investments in mortgages by federal and provincial loan companies may be gauged by the following figures: total assets of such companies for the years 1956 and 1957 amounted to \$437,169,171 and \$549,071,796,

* Revised under the direction of the Superintendent of Insurance for Canada, Ottawa.

respectively, which amounts include mortgage loans of \$331,433,425 and \$420,635,499, respectively; thus, the resulting percentages of mortgages to total assets for those years were approximately 76 p.c. and 77 p.c., respectively. The data for 1957 includes for the first time the figures of one loan company incorporated under the laws of Quebec (the capital stock of which has been issued largely outside of Canada but whose debentures for the greater part are now held in Canada) having, as at Dec. 31, 1957, assets of \$80,419,250 including mortgage loans amounting to \$69,677,253, and liabilities to the public of \$48,480,797.

Functions of Trust Companies.—Trust companies act as executors, trustees and administrators under wills or by appointment, as trustees under marriage or other settlements, as agents or attorneys in the management of the estates of the living, as guardians of minor or incapable persons, as financial agents for municipalities and companies, as transfer agents and registrars for stocks and bond issues, as trustees for bond issues and, where so appointed, as authorized trustees in bankruptcy. Such companies receive deposits for investment but the investing and lending of such deposits and of actual trust funds are restricted by law.

Statistics of Loan and Trust Companies.—A summary of operations of provincial and federal loan and trust companies is given in Table 1. As a result of the nature of the operations of the latter companies, which are intimately connected with the matter of probate, the larger trust companies usually choose to operate under provincial charters and the provincial figures represent much larger amounts than those of the federal companies.

The figures for federal loan companies include companies chartered by the Government of Nova Scotia which, by arrangement, come under inspection by the federal Department of Insurance. The data for federal trust companies cover companies chartered by the Governments of Nova Scotia, New Brunswick and Manitoba for the same reason.

1.—Operations of Provincial and Federal Loan and Trust Companies, as at Dec. 31, 1956 and 1957

Item	1956			1957		
	Provincial Companies	Federal Companies	Total	Provincial Companies ¹	Federal Companies	Total
	\$	\$	\$	\$	\$	\$
Loan Companies—						
Assets (book values).....	140,453,366	296,715,805	437,169,171	228,927,416	320,144,380	549,071,796
Liabilities to the public.....	105,577,295	258,245,799	363,823,094	160,429,357	280,238,094	440,667,451
Capital Stock—						
Authorized.....	27,350,150	52,500,000	79,850,150	37,806,677	53,000,000	90,806,677
Subscribed.....	15,430,343	16,440,600	31,870,943	25,960,670	18,058,461	44,019,131
Paid up.....	10,929,428	17,622,027	28,551,455	21,395,350	17,695,087	39,090,437
Reserve and contingency funds.....	18,149,014	19,271,324	37,420,338	38,896,098	20,527,887	59,423,985
Other liabilities to shareholders.....	5,797,629	1,178,155	6,975,784	8,206,581	1,207,196	9,413,777
Total liabilities to shareholders.....	34,876,071	38,071,506	72,947,577	68,498,059	39,430,170	107,928,229
Net profits realized during year ²	3,044,336	5,022,098	8,066,434	3,416,636	3,298,072	6,714,708
Trust Companies—						
Assets (book values)—						
Company funds.....	91,554,381	36,690,878	128,245,259	97,258,395	38,843,072	136,101,467
Guaranteed funds.....	446,448,674	170,344,746	616,793,420	472,673,645	176,964,312	649,642,957
Totals, Assets.....	538,003,055	207,035,624	745,038,679	569,937,040	215,807,384	785,744,424
Estates, trust, and agency funds.....	4,318,560,879	815,367,349	5,133,928,228	4,695,817,867	886,560,559	5,582,378,426
Capital Stock—						
Authorized.....	56,523,000	33,000,000	89,523,000	56,585,000	36,000,000	92,585,000
Subscribed.....	31,486,930	17,674,130	49,161,060	32,148,510	18,676,680	50,825,190
Paid up.....	30,901,805	17,327,010	48,228,815	31,600,360	18,332,563	49,932,923
Reserve and contingency funds.....	36,661,034	11,911,366	48,572,400	39,320,428	13,099,813	52,420,241
Unappropriated surpluses.....	8,041,408	2,414,427	10,455,835	8,398,518	2,653,073	11,051,591
Net profits realized during year ²	8,407,298	3,654,719	12,062,017	5,484,097	2,331,711	7,815,808

¹ Includes, for the first time, one loan company incorporated under the laws of Quebec (*see* text above).

² Net profits before taxes.

2.—Assets and Liabilities of Loan Companies, 1953-57

Item	CHARTERED BY GOVERNMENT OF CANADA ¹				
	1953	1954	1955	1956	1957
Assets	\$	\$	\$	\$	\$
Real estate ²	5,949,482	5,768,982	5,699,194	7,196,820	8,176,745
Loans on real estate.....	159,833,300	178,968,416	200,118,391	227,370,747	245,459,582
Loans on securities.....	164,364	139,250	155,562	180,793	249,551
Bonds and debentures.....	31,929,613	48,807,414	50,187,515	36,623,327	39,190,957
Stocks.....	10,877,532	12,163,845	14,058,759	16,246,819	15,907,174
Cash.....	7,022,432	7,916,073	8,781,617	7,015,991	8,578,259
Totals, Assets³.....	217,019,970	255,446,553	281,004,269	296,715,805	320,144,380
Liabilities					
Liabilities to Shareholders—					
Capital paid up.....	16,042,255	16,080,222	16,545,334	17,622,027	17,695,087
Reserves.....	15,100,186	16,604,475	17,458,300	19,271,324	20,527,887
Totals, Liabilities to Shareholders⁴.....	32,354,356	33,604,179	35,076,130	38,071,506	39,430,170
Liabilities to the Public—					
Debentures.....	98,618,936	120,816,931	130,264,215	146,839,303	169,507,160
Deposits.....	83,382,889	97,696,275	111,557,968	106,671,012	105,761,097
Totals, Liabilities to the Public⁵.....	184,448,041	221,612,649	245,606,324	258,245,799	280,238,094
Totals, Liabilities.....	216,802,397	255,216,828	280,682,454	296,317,305	319,668,264
CHARTERED BY PROVINCES ⁶					
	1953	1954	1955	1956	1957 ⁷
Assets	\$	\$	\$	\$	\$
Real estate ²	1,154,202	1,193,695	856,504	986,728	3,438,381
Loans on real estate.....	77,786,970	87,292,530	96,847,710	104,062,678	175,175,917
Loans on securities.....	981,122	1,019,631	1,035,965	1,194,450	3,381,018
Bonds and debentures.....	20,597,703	22,094,106	23,017,586	26,377,850	26,409,555
Stocks.....	2,263,272	2,298,200	2,782,701	3,176,295	6,700,522
Cash.....	3,198,296	3,274,065	4,261,283	3,837,228	8,723,799
Totals, Assets³.....	106,571,244	117,936,572	129,589,371	140,453,366	228,927,416
Liabilities					
Liabilities to Shareholders—					
Capital paid up.....	10,134,967	9,808,065	9,890,439	10,929,428	21,395,380
Reserves.....	13,985,035	15,090,685	16,694,396	18,149,014	38,896,098
Totals, Liabilities to Shareholders⁴.....	28,453,777	29,852,739	31,671,971	34,876,071	68,498,059
Liabilities to the Public—					
Debentures.....	23,751,608	26,556,895	28,696,549	30,139,135	73,586,634
Deposits.....	52,481,156	59,683,140	67,587,267	73,543,730	82,434,034
Totals, Liabilities to the Public⁵.....	78,117,467	88,083,833	97,917,400	105,577,295	160,429,357
Totals, Liabilities.....	106,571,244	117,936,572	129,589,371	140,453,366	228,927,416

¹ Includes companies chartered by the Government of Nova Scotia which, by arrangement, are inspected by the federal Department of Insurance.

² Book value of real estate for company use and other real estate.

³ Includes interest due and accrued and other assets.

⁴ Includes other liabilities to shareholders.

⁵ Includes other liabilities to the public.

⁶ Exclusivo of Nova Scotia.

⁷ Includes, for the first time, one loan company incorporated under the laws of Quebec (see p. 1123).

3.—Assets and Liabilities of Trust Companies, 1953-57

Item	CHARTERED BY GOVERNMENT OF CANADA ¹				
	1953	1954	1955	1956	1957
	\$	\$	\$	\$	\$
Assets					
Company Funds ^{1,2}	29,629,779	29,451,872	32,090,504	36,690,878	38,843,073
Real estate ⁴	2,376,927	2,181,017	2,446,182	2,856,671	2,988,961
Loans on real estate	5,904,007	6,315,655	6,947,633	9,399,887	9,514,144
Loans on securities	714,659	610,784	593,086	507,486	404,577
Bonds and debentures	12,149,590	11,584,230	12,538,063	14,467,349	15,743,144
Stocks	4,544,646	4,498,384	5,314,098	5,500,185	5,881,192
Cash	2,423,362	3,156,458	3,136,361	2,506,028	2,876,263
Guaranteed Funds ^{2,3}	110,366,037	140,601,795	159,235,891	170,344,746	176,964,312
Loans on real estate	49,322,834	59,027,501	78,009,884	90,669,596	95,833,151
Loans on securities	3,419,930	5,577,269	4,875,283	6,610,993	4,729,770
Bonds and debentures	50,258,820	68,610,990	68,265,804	60,310,896	66,029,880
Stocks	1,454,318	1,898,885	2,127,899	1,561,694	1,539,685
Cash	5,052,409	4,273,214	4,592,425	9,731,317	7,234,502
Liabilities					
Company Funds⁵	29,048,202	28,850,642	31,905,971	36,381,834	38,583,249
Capital paid up	15,097,718	14,653,624	15,407,916	17,327,010	18,332,563
Reserves	9,301,381	10,822,267	12,267,502	11,911,366	13,099,813
Guaranteed Funds—Trust Deposits and Certificates	110,366,037	140,601,795	159,235,891	170,344,746	176,964,312
	CHARTERED BY PROVINCES ⁶				
Assets					
Company Funds ^{1,2}	81,569,089	83,140,092	88,360,564	91,554,361	97,258,395
Real estate ⁴	7,199,280	7,823,819	8,411,623	8,763,967	11,735,804
Loans on real estate	13,743,299	13,016,509	14,060,244	12,812,273	10,330,834
Loans on securities	6,718,451	8,799,177	9,131,608	11,217,620	12,145,388
Bonds and debentures	27,229,386	25,690,753	25,431,913	24,123,965	25,342,514
Stocks	19,015,061	19,996,998	22,161,675	24,905,523	29,161,353
Cash	3,858,071	3,891,065	4,760,662	4,662,121	3,222,485
Guaranteed Funds²	268,175,625	383,697,760	437,168,231	446,448,674	472,678,645
Loans on real estate	80,943,551	99,835,875	128,630,198	155,096,475	159,294,108
Loans on securities	10,873,145	20,265,826	24,700,574	19,823,245	29,845,537
Bonds and debentures	159,394,731	239,473,762	252,047,774	238,455,688	253,111,774
Stocks	1,642,565	878,378	1,286,070	2,212,005	1,911,365
Cash	14,716,402	21,553,634	28,110,462	28,037,961	25,235,015
Liabilities					
Company Funds⁵	81,569,089	83,140,092	88,360,564	91,554,361	97,258,395
Capital paid up	29,414,810	29,870,940	30,932,370	30,901,805	31,600,360
Reserves	29,591,322	31,674,933	35,496,257	36,661,034	39,320,428
Guaranteed Funds—Trust Deposits and Certificates	268,175,625	383,697,760	437,168,231	446,448,674	472,678,645

¹ Includes companies chartered by the Governments of Nova Scotia, New Brunswick and Manitoba, which, by arrangement, are inspected by the federal Department of Insurance. ² Includes other assets.

³ Includes interest due and accrued.

⁴ Includes other company fund liabilities.

⁵ Includes other company fund liabilities.

⁶ Chartered by all provinces except Nova Scotia, New Brunswick and Manitoba (see text, p. 1122).

4.—Estates, Trust and Agency Funds of Trust Companies, Chartered by or Supervised by the Federal Government and by Provincial Governments, as at Dec. 31, 1948-57

Year	Federal Companies ¹	Provincial Companies ²	Total	Year	Federal Companies ¹	Provincial Companies ²	Total
	\$	\$	\$		\$	\$	\$
1948.....	520,860,737	2,791,584,378	3,312,445,115	1953.....	631,231,540	3,470,781,614	4,102,013,154
1949.....	560,080,611	2,827,988,797	3,388,069,408	1954.....	663,520,956	3,734,874,516	4,398,395,472
1950.....	494,636,746	3,126,058,749	3,620,695,495	1955.....	734,670,479	3,985,662,299	4,720,332,778
1951.....	543,983,754	3,282,558,573	3,826,542,327	1956.....	815,367,349	4,318,560,879	5,133,928,228
1952.....	588,550,279	3,383,650,088	3,972,200,367	1957.....	886,560,559	4,695,817,867	5,582,378,426

¹ Includes companies chartered by the Governments of Nova Scotia, New Brunswick and Manitoba which, by arrangement, are inspected by the federal Department of Insurance. ² Excludes provincial companies of Nova Scotia, New Brunswick and Manitoba which are included in federal companies.

Section 2.—Licensed Small Loans Companies and Licensed Money-Lenders*

Licensed small loans companies and licensed money-lenders are subject to the provisions of the Small Loans Act (R.S.C. 1952, c. 251) as amended by c. 46 of the Statutes of 1956, an enactment of the Parliament of Canada regulating personal loans not in excess of \$1,500 made on the security of promissory notes of borrowers. Most of these notes are additionally secured by endorsements or chattel mortgages. The Act permits, in the case of licensed lenders, maximum rates of cost of loan, including charges of every kind, of 2 p.c. per month on that portion of the unpaid balance of a loan not exceeding \$300, 1 p.c. per month on that portion of the balance exceeding \$300 but not exceeding \$1,000, and one-half of 1 p.c. per month on any remainder of the balance exceeding \$1,000. The maximum rate permitted to be charged by an unlicensed lender is 1 p.c. per month. Prior to Jan. 1, 1957, the scope of the Act extended only to loans of \$500 and under and the maximum rate permitted to be charged by licensed lenders was 2 p.c. per month and by unlicensed lenders 12 p.c. per annum. The small loans companies—four in number—were incorporated by special Acts of the Parliament of Canada, the first such company commencing business in 1928. Money-lenders, of which there are 75, are made up of companies otherwise incorporated and include a few partnerships and individuals. Table 5 gives the combined financial experience of small loans companies and licensed money-lenders for the years 1954-57.

* Further details are given in the Department of Insurance report *Small Loans Companies and Money-Lenders* for the year ended Dec. 31, 1957.

5.—Assets and Liabilities of Small Loans Companies and Money-Lenders, 1954-57

Assets and Liabilities	1954	1955	1956	1957 ¹
	\$	\$	\$	\$
Assets.....	172,173,681	208,517,770	262,386,415	326,549,959
Small loan balances.....	88,822,891	88,844,506	88,423,203	229,199,629
Balances, large loans and other contracts.....	75,824,672	109,530,841	160,743,235	86,534,064
Cash.....	3,955,094	4,975,980	6,308,752	5,287,550
Other.....	3,571,024	5,166,443	6,906,225	5,528,716
Liabilities.....	172,173,681	208,517,770	262,386,415	326,549,959
Borrowed money.....	122,688,252	149,688,502	191,697,344	258,184,531
Reserves for losses.....	4,263,655	5,028,544	5,607,582	6,766,856
Paid-up capital.....	10,383,509	12,264,662	13,978,275	14,992,722
Surplus paid in by shareholders.....	11,587,820	11,578,629	12,078,629	12,478,629
Other.....	23,250,447	29,957,433	39,024,585	34,127,221

¹ Commencing Jan. 1, 1957, the Small Loans Act became applicable to loans of \$1,500 and under made on and after that date (see text above).

The increase in the scope of the Act resulted in a very large increase in the number and the amount of small loans made and in the number and amount of small loan balances outstanding during 1957 as compared with 1956. During 1957, 1,075,322 small loans valued at \$368,392,107 were made as against 844,348 loans amounting to \$184,293,692 in 1956. The average small loan was approximately \$343 in 1957. At the end of that year small loans outstanding numbered 812,135 for an amount of \$229,199,629 or an average of \$282; at the end of 1956 the outstanding loans numbered 543,394 and amounted to \$88,428,203 or an average of \$163 per loan.

Section 3.—Sales of Canadian Bonds*

Previous editions of the Year Book have traced the sales of Canadian bonds to the end of 1956. This review continues the record of new issues placed through the years 1957 and 1958.

New issues came on the bond market in 1957 and 1958 at a higher rate than in previous years and found a fairly ready acceptance in view of recessionary trends. In 1958, however, there were two distinctive trends not shown by the accompanying statistics. Principal emphasis was on the refunding of a major portion of Canada's long-term debt and a very significant increase in the weekly treasury bill issues as representing short-term financing of less than one year. The refunding operation is dealt with separately on pp. 1130-1131.

In the flotation of new issues, offerings of Canadian bonds and debentures in 1957 (excluding all refunding and new issues with a term to maturity of less than one year) totalled \$4,495,044,738, up sharply from 1956. In 1958, the comparative total advanced still higher to \$4,550,033,925 and both totals were over the previous peak of \$4,468,983,364 in 1954. Advances for 1957 and 1958 were caused by increases in all categories of new issues placed with the exception of corporate sales which were down from the record peak reached in 1957.

Excluded from the statistical calculations in this review are federal short-term issues in the form of treasury bills with a maturity of less than one year, which amounted to \$6,530,000,000 in 1957 and \$6,761,000,000 in 1958. With these issues included, the totals would be \$11,025,044,738 and \$11,311,033,925, respectively, and if the amount of \$5,805,519,850 for the Canada Conversion Loan were also added to the 1958 figure, the grand total for the year would be \$17,116,553,775, placing it in a completely unique position.

Excluding all such refunding and short-term financing of less than one year, federal and guaranteed sales amounted to \$2,468,787,450 in 1957 and \$2,566,000,000 in 1958, compared with \$1,357,000,000 in 1956. A very considerable amount of new capital was acquired by public subscription to Canada Savings Bonds, Series 12 (1957) and Series 13 (1958). These series, while similar in many respects to previous issues, reflected the upward movement in interest rates.

Canada Savings Loan, Series 12, matures on Nov. 1, 1970, and bears interest at a rate of $3\frac{1}{4}$ p.c. for the first two years and at a rate of $4\frac{1}{2}$ p.c. for the remaining eleven years, giving an over-all yield, if held to maturity, of 4.46 p.c. Series 13 matures on Nov. 1, 1973, and bears interest at a rate of $3\frac{1}{2}$ p.c. for the first year and at a rate of $4\frac{1}{2}$ p.c. for the remaining fourteen years, giving an over-all yield, if held to maturity, of 4.19 p.c. Table 6 gives total sales, number of applications, and limits per individual for all Canada Savings Loan issues from 1946 to 1958.

* Prepared by E. C. Gould, Financial Editor, *The Monetary Times*.

6.—Sales of Canada Savings Loans, 1946-58¹

Series	Applications	Limits per Individual	Total Sales
	No.	\$	\$
Series 1, 1946.....	1,248,444	2,000	535,285,550
Series 2, 1947.....	910,742	1,000	287,733,100
Series 3, 1948.....	862,686	1,000	260,491,150
Series 4, 1949.....	1,015,579	1,000	320,200,000
Series 5, 1950.....	963,048	1,000	285,600,000
Series 6, 1951.....	986,900	5,000	394,642,400
Series 7, 1952.....	982,274	5,000	380,761,100
Series 8, 1953.....	1,267,506	5,000	850,548,900
Series 9, 1954.....	1,175,264	5,000	800,540,900
Series 10, 1955.....	1,180,000	5,000	729,100,000
Series 11, 1956.....	1,242,250	5,000	853,810,150
Series 12, 1957.....	1,293,148	10,000	1,216,706,500
Series 13, 1958.....	1,134,673	10,000	865,163,400

¹ Figures for the issues 1946-56 are for the entire loans, i.e., either to the year-end or to the closing date within the year or in the subsequent year. The figure for Series 12 (1957) is to Dec. 31, 1957, and the figure for Series 13 (1958) is to Dec. 31, 1958.

In the category of combined direct and guaranteed financing by Canadian provinces, the totals for 1957 and 1958 at \$645,959,500 and \$791,271,000, respectively, were both higher than for 1956 at \$557,888,000 or any of the previous years. Of the 1957 total \$175,750,000 was for direct provincial financing and the remainder of \$470,209,500 represented provincial guarantees for utility, municipal and parochial issues. Of the 1958 total, \$290,800,000 represented direct provincial financing and \$500,471,000 was of a guaranteed nature.

Provinces which directly entered the bond market in 1957 and 1958 included:—

Province	Month	Amount	Province	Month	Amount
		\$'000			\$'000
1957—			1958—		
Saskatchewan.....	January.....	15,750	Nova Scotia.....	February.....	5,000
Nova Scotia.....	January.....	5,000	Saskatchewan.....	April.....	25,000
New Brunswick.....	February.....	7,500	Ontario.....	April.....	75,000
Prince Edward Island.....	February.....	2,500	Nova Scotia.....	May.....	15,000
Saskatchewan.....	February.....	7,000	Ontario.....	May.....	75,000
Newfoundland.....	April.....	4,000	Saskatchewan.....	June.....	5,000
Nova Scotia.....	May.....	5,000	New Brunswick.....	June.....	5,000
Newfoundland.....	May.....	2,000	Saskatchewan.....	August.....	10,800
Saskatchewan.....	June.....	6,000	Manitoba.....	October.....	10,000
Ontario.....	July.....	60,000	Ontario.....	December.....	65,000
Newfoundland.....	September.....	3,000			
Saskatchewan.....	September.....	7,000			
New Brunswick.....	September.....	6,000			
Manitoba.....	September.....	6,000			
Nova Scotia.....	November.....	8,000			
Prince Edward Island.....	November.....	2,000			
Saskatchewan.....	November.....	25,000			
Newfoundland.....	December.....	4,000			
TOTAL, 1957.....		175,750	TOTAL, 1958.....		290,800

In the field of direct municipal financing (i.e., exclusive of municipal financing guaranteed by various provinces) the market for new issues held up well in 1957 and 1958. Local improvements constituted the principal purposes for such borrowing, the most important being new schools and waterworks. When flotations for parochial school purposes are included, total municipal sales amounted to \$355,693,688 in 1957 and \$463,507,925 in 1958, both higher than the total of \$318,597,867 for 1956. The municipalities of Montreal, Toronto, Ottawa, Hamilton, Winnipeg, Regina, Calgary, Edmonton, and Vancouver were among the most important borrowers during these two years.

During 1957 and 1958, corporate financing totalled \$1,024,604,100 and \$729,255,000, respectively, and compared with a total of \$860,184,000 in 1956. The record total in 1957 was attributed to the large number of plans for industrial expansion with emphasis on pipeline financing. Since a general slow-down of business activity began towards the end of 1957 and continued into the following year, this decline was reflected in the number and amount of new corporate issues placed. As a result, corporate financing for 1958 was well below that of 1957 and 1956 but was higher than for all previous years.

In the corporate domain, as in the municipal area, the new issue market was much more active during the first part of 1958 than in the later months. New money borrowed in the domestic market included \$50,000,000 by British Columbia Electric Company Limited, \$40,000,000 by Canadian Pacific Railway Company, \$30,000,000 by The Alberta Gas Trunk Line Company, and \$25,000,000 by Algoma Steel Corporation Limited. New corporate money borrowed in the United States included \$50,000,000 of Bell Telephone Company of Canada bonds and \$30,000,000 of Pacific Petroleum debentures, carrying stock purchase warrants.

Sales of provincial government and municipal bonds in the United States showed a moderate increase during 1958 while new issues of Canadian corporate bonds declined sharply to about 30 p.c. of the 1957 level. These trends were caused partly by the pipeline financing done in 1957 and partly by more favourable Canadian interest rates in 1958. As an over-all result, all new issues placed in the United States totalled \$482,077,621 in 1958, compared with \$606,876,100 in 1957 and \$470,532,982 in 1956.

Variations in the volume of Canadian financing done in the United States have involved a consideration of three essential factors: the comparative levels of interest rates; variations in exchange rates; and the volume of financing required in relation to available money supply. When all factors are evaluated, however, interest and exchange rates must take second place to money supply. Thus, most of the United States financing undertaken by Canadian governments and corporations has been by users who required more money than they were able to raise on the Canadian market.

During the years 1957 and 1958, a continued trend to lower prices caused a wide range of comment about future markets for Canadian bonds. Apparently, a big factor forcing investors out of bonds and into equities was the continued inflation which caused doubts about the stability of real dollar values. In contrast, however, there was a marked public confidence in the Conversion Loan, in Savings Bonds, and in most other fields of security financing as a way to desirable economic expansion. Should investors ultimately come to believe that inflationary pressures are only a temporary threat, further advances can certainly be expected in the volume of new issues placed.

7.—Sales of Canadian Bonds, by Class of Bond and Country of Sale, 1949-58

(SOURCE: *The Monetary Times*)

NOTE.—Figures from 1904 are given in the corresponding table of previous Year Books beginning with the 1933 edition.

Year	CLASS OF BOND					
	Federal ¹	Provincial	Municipal	Parochial and Miscellaneous	Corporation	Total
	\$	\$	\$	\$	\$	\$
1949.....	790,200,000	449,347,000	134,796,184	23,853,200	285,268,000	1,683,464,384
1950.....	2,167,600,000	373,824,500	150,369,281	30,466,369	431,180,303	3,153,440,453
1951.....	594,642,400	369,532,000	196,438,916	37,967,921	451,630,000	1,650,211,237
1952.....	830,761,100	426,973,000	147,690,940	49,264,100	573,539,000	2,028,228,140
1953.....	1,950,548,900	436,616,900	186,784,460	35,242,605	336,295,800	2,945,488,665
1954.....	3,200,540,900	400,916,000	209,640,778	51,352,886	606,532,800	4,468,983,364
1955.....	1,348,500,000	434,165,000	226,991,573	66,063,850	585,795,900	2,661,516,323
1956.....	1,357,000,000	557,888,000	265,936,167	52,661,700	860,184,400	3,093,670,267
1957.....	2,468,787,450	645,959,500	305,726,988	49,966,700	1,024,604,100	4,495,044,738
1958.....	2,566,000,000	791,271,000	401,426,925	62,081,000	729,255,000	4,550,033,925

For footnote, see end of table, p. 1130.

7.—Sales of Canadian Bonds, by Class of Bond and Country of Sale, 1949-58—concluded

Year	COUNTRY OF SALE		
	Canada ¹	United States	Total
	\$	\$	\$
1949.....	1,543,464,384	140,000,000	1,683,464,384
1950.....	2,980,740,453	172,700,000	3,153,440,453
1951.....	1,266,188,237	384,023,000	1,650,211,237
1952.....	1,743,578,115	284,650,025	2,028,228,140
1953.....	2,638,889,450	306,599,215	2,945,488,665
1954.....	4,295,385,364	173,598,000	4,468,983,364
1955.....	2,506,983,323	154,563,000	2,661,546,323
1956.....	2,623,137,285	470,532,982	3,093,670,267
1957.....	3,888,168,638	606,876,100	4,495,044,738
1958.....	4,067,956,304	482,077,621	4,550,033,925

¹ Excludes treasury bills, deposit certificates and other financing for a term of less than one year and the Canada Conversion Loan of 1958.

THE CANADA CONVERSION LOAN*

The largest financing ever undertaken in Canada, the Canada Conversion Loan of 1958, merits explanation concerning the nature of this refunding and the principal objectives involved. The series for refunding covered the 5th to 9th Victory Loans, which were issued during World War II and matured at various dates from Jan. 1, 1959 to Sept. 1, 1966. The actual amount of these series outstanding was \$6,415,880,350, representing 60 p.c. of the outstanding funded debt, excluding special categories of treasury bills and Canada Savings Bonds.

Of the amount outstanding, \$1,300,000,000 was held before conversion by the Bank of Canada, \$300,000,000 by the Unemployment Insurance Commission, \$100,000,000 in government accounts, \$1,400,000,000 by the chartered banks and \$3,300,000,000 was held by insurance companies, trust and loan institutions, other corporations, and individuals.

Statistics on individual ownership of Victory Bonds were given in the 1957-58 Year Book, p. 1162, where it was indicated that holdings of the 5th to 9th Victory Loans were held about equally by individuals and corporations at the time the various issues were sold. Of course, the nature of holdings altered greatly between date of sale and conversion time in 1958 and it is safe to assume that many more Victory Bonds were sold by individuals to large corporations and government agencies than were originally acquired by them.

At the same time, it has been reliably reported that surprisingly large amounts of individual holdings were located when the conversion campaign got under way, the majority of them in rural areas. The unexpected number of such conversions emphasized that the process did not entirely represent financing by large corporations and government agencies to the exclusion of individual investors.

Because a principal objective was directed to the longest possible term, emphasis was placed on the 4½-p.c. 25-year bonds during the conversion campaign. It was further indicated, however, that "if desired", 4¼-p.c. 14-year bonds, or 3¼-p.c. 7-year bonds, or 3-p.c. 3¼-year bonds were available for investors desiring shorter maturities. The following statement, prepared by a Canadian investment house, summarizes information concerning the conversion offer. Of special interest are figures showing how bonus features of cash per \$1,000 bond were applied to various maturities.

* Prepared by E. C. Gould, Financial Editor, *The Monetary Times*.

CANADA CONVERSION LOAN OF 1958

Outstanding Bonds			Convertible into—			
Date of Maturity	Victory Loan Number	With Undermentioned Coupon and All Subsequent Coupons Attached	New Issue	And Cash per \$1,000 Bond of—	Term	Date of Maturity
			p.c.	\$	Yr.	
Jan. 1, 1959.....	5	Jan. 1, 1959.....	4½ or 4¼	{ 25.00	25	Sept. 1, 1983
June 1, 1960.....	6	Dec. 1, 1958.....		{ 22.50		
Feb. 1, 1962.....	7	Feb. 1, 1959.....		{ 12.50		
Oct. 1, 1963.....	8	Oct. 1, 1958.....		{ 17.50		
Sept. 1, 1966.....	9	Sept. 1, 1958.....		{ 15.00	14	Sept. 1, 1972
Jan. 1, 1959.....	5	Jan. 1, 1959.....	3½	{ 25.00	7	Sept. 1, 1965
June 1, 1960.....	6	Dec. 1, 1958.....		{ 22.50		
Feb. 1, 1962.....	7	Feb. 1, 1959.....		{ 12.50		
Jan. 1, 1959.....	5	Jan. 1, 1959.....	3	{ 15.00	3½	Dec. 1, 1961
June 1, 1960.....	6	Dec. 1, 1958.....		{ 12.50		

Long-term features in the conversion issue were further emphasized by a non-callable feature. Unlike outstanding Victory Loans, the conversion bonds cannot be called by the Government before maturing date. Many students of Canadian finance have been inclined to believe that a former callable feature in the huge \$6,400,000,000 debt tended to weaken the Canadian bond market substantially.

In many respects, the Canada Conversion Loan of 1958 was somewhat in the nature of 'rights', which have long been used to encourage both stock and bond issues. During the campaign, holdings of Victory Bonds carried a right to retain them, to sell them to others, or to convert them into longer-term maturities at attractive bonuses under an exchange offer which expired on Sept. 15, 1958. This form of financing opened up the Conversion Loan to all investors, whether or not they actually owned Victory Bonds at the time of exchange.

When Victory Bonds were sold by their former owners because they wanted cash, they could be purchased by an investment house and used for customers who had none of their own but who wanted to buy into the conversion issue. As with most 'rights', however, there was a reward for investors who retained their original holdings. In general, the entire process might be defined as a 'face-for-face' voluntary exchange, plus an adjustment payment to compensate holders of Victory Bonds for taking new bonds that matured further into the future. The principal aim was to distribute a substantial part of the national debt by an extension of maturities over a much longer term from 6.0 to 10.6 years.

Latest available returns (Apr. 30, 1959) show that the total amount converted reached \$5,805,519,850. Of this total, the 3-p.c. 1961 issue accounted for \$1,020,514,000, the 3½-p.c. 1965 issue for \$1,266,723,100, the 4½-p.c. 1972 issue for \$1,366,733,800, and the 4¼-p.c. 1983 issue for \$2,151,548,950. When the total converted at \$5,805,519,850 is subtracted from that originally outstanding at \$6,415,880,350, the amount still held in Victory Bonds totalled \$610,360,500. The principal retention was by individuals and corporations with outstanding debts requiring a near-term liquidation.

It should be noted that the Canada Conversion Loan of 1958 was entirely of a refunding nature and did not involve new financing which was continued by the Federal Government as various expenditures had to be met. What the Government did, in effect, was to facilitate financing in all fields of security borrowing by applying on a gigantic scale the basic principle of federal debt consolidation.

CHAPTER XXV.—INSURANCE*

CONSPECTUS

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NOTE.—The interpretation of the symbols used in the tables throughout the Year Book will be found facing p. 1 of this volume.

Insurance, for the purpose of statistical analysis, is usually classified as life, fire and casualty. Most companies operate under Federal Government registration although some have provincial licences only. Also many fraternal orders and societies are engaged in this kind of business. The special articles relating to insurance that have appeared in previous editions of the Year Book are listed in Part II of Chapter XXVII under the heading "Insurance".

Section 1.—Life Insurance†

Life insurance in force in Canada with companies registered by the Federal Government (exclusive of fraternal benefit societies) amounted to over \$33,087,000,000 at the end of 1957, an increase of \$4,000,000,000 during the year. The ratio of gain in business in force expressed as a percentage of the amount in force at the beginning of the same year, which had hovered around 10 p.c. each year during the decade ending in 1955, increased to 14.3 p.c. in 1956 but in 1957 fell back slightly to 13.8 p.c.

Year	In Force at Beginning of Year	Increase in Force for the Year	Per- centage Gain
	\$	\$	
1930.....	6,157,000,000	335,000,000	5.4
1935.....	6,221,000,000	38,000,000	0.6
1940.....	6,776,000,000	200,000,000	2.9
1945.....	9,140,000,000	612,000,000	6.7
1950.....	14,409,000,000	1,337,000,000	9.3
1951.....	15,746,000,000	1,490,000,000	9.5
1952.....	17,236,000,000	1,855,000,000	10.8
1953.....	19,091,000,000	2,136,000,000	11.2
1954.....	21,227,000,000	1,908,000,000	9.0
1955.....	23,135,000,000	2,317,000,000	10.0
1956.....	25,452,000,000	3,635,000,000	14.3
1957.....	29,087,000,000	4,000,000,000	13.8

* Material in this Chapter, except as otherwise indicated, has been prepared under the direction of the Superintendent of Insurance for Canada, Ottawa. More detailed data are available in the Annual Reports of the Department of Insurance.

† All the amounts given in the tables of this Section are net amounts after deduction of reinsurance ceded.

Subsection 1.—Summary of Life Insurance in Canada

Tables 1 and 2 summarize insurance premiums, claims, amounts of new policies effected, and amounts of insurance in force on Dec. 31 for the years 1956 and 1957. These data are presented in Table 1 on the basis of the supervising government authorities for the companies and societies concerned, and the same data are presented in Table 2 classified on the basis of nationality of company or society and by supervising government authorities.

1.—Summary of Life Insurance in Canada according to Supervising Government Authority, 1956 and 1957

Business Transacted by—	Insurance Premiums	Claims ¹	New Policies Effected	Insurance in Force, Dec. 31
	\$	\$	\$	\$
1956				
Federally Registered	571,878,944	184,926,378	4,187,402,603	29,486,692,163
Companies.....	564,723,434	180,852,023	4,119,767,064	29,087,416,143
Societies.....	7,155,510	4,074,355	67,634,939	399,276,020
Provincially Licensed Only	33,082,660	10,369,482	351,521,176	1,779,673,222
Within Province of Incorporation—				
Companies.....	22,386,624	5,956,099	255,503,923	1,279,801,907
Societies.....	5,068,193	2,304,339	39,591,754	233,106,842
Outside Province of Incorporation—				
Companies.....	3,334,979	690,630	39,799,924	151,406,232
Societies.....	2,292,859	1,418,414	16,625,575	115,358,241
Totals, 1956	604,961,604	195,295,860	4,538,923,779	31,266,365,385
1957				
Federally Registered	614,934,866	204,803,268	5,015,721,757	33,527,987,568
Companies.....	607,110,740	200,669,872	4,936,358,903	33,087,056,501
Societies.....	7,824,126	4,133,396	79,362,854	440,931,067
Provincially Licensed Only	38,466,850	12,577,321	410,012,118	2,106,173,517
Within Province of Incorporation—				
Companies.....	26,686,647	7,628,558	297,153,517	1,550,485,456
Societies.....	5,349,549	2,340,575	40,783,463	246,252,674
Outside Province of Incorporation—				
Companies.....	3,921,818	1,006,133	45,015,354	182,345,276
Societies.....	2,508,836	1,602,055	27,059,784	127,090,111
Totals, 1957	653,401,716	217,380,589	5,425,733,875	35,634,161,085

¹ Death, disability and maturity of insurance and annuity contracts; for fraternal benefit societies, annuity contracts do not apply.

2.—Summary of Life Insurance in Canada, by Nationality of Company or Society, 1956 and 1957

Business Transacted by—	Insurance Premiums	Claims ¹	New Policies Effected	Insurance in Force, Dec. 31
	\$	\$	\$	\$
1956				
Canadian Companies—				
Federally registered.....	377,531,692	120,978,895	2,697,441,466	19,783,194,985
Provincially licensed only.....	25,721,603	6,646,729	295,303,847	1,431,208,139
Canadian Societies—				
Federally registered.....	3,420,452	2,453,467	46,481,330	238,087,472
Provincially licensed only.....	7,361,057	3,722,753	56,217,329	348,465,083

For footnote, see end of table, p. 1134.

**2.—Summary of Life Insurance in Canada, by Nationality of Company
or Society, 1956 and 1957—concluded**

Business Transacted by—	Insurance Premiums	Claims ¹	New Policies Effectuated	Insurance in Force, Dec. 31
	\$	\$	\$	\$
1956—concluded				
British Companies— Federally registered.....	19,759,474	5,066,155	159,182,181	819,968,279
Foreign Companies— Federally registered.....	167,432,268	54,806,973	1,263,144,027	8,484,252,879
Foreign Societies— Federally registered.....	3,735,058	1,620,888	21,153,609	161,188,548
Totals, 1956.....	604,961,604	195,295,860	4,538,923,779	31,266,365,385
1957				
Canadian Companies— Federally registered.....	405,518,078	133,194,500	3,037,487,837	22,262,730,280
Provincially licensed only.....	30,608,465	8,634,691	342,168,871	1,732,830,732
Canadian Societies— Federally registered.....	3,869,231	2,409,982	53,371,945	263,477,451
Provincially licensed only.....	7,858,385	3,942,630	67,843,247	373,342,785
British Companies— Federally registered.....	21,368,630	5,147,924	226,584,627	994,762,620
Foreign Companies— Federally registered.....	180,224,032	62,327,448	1,672,286,439	9,829,563,601
Foreign Societies— Federally registered.....	3,954,895	1,723,414	25,990,909	177,453,616
Totals, 1957.....	653,401,716	217,380,589	5,425,733,875	35,634,161,085

¹ Death, disability and maturity of insurance and annuity contracts; for fraternal benefit societies annuity contracts do not apply.

**Subsection 2.—Operational Statistics for Life Insurance Transacted in
Canada by Companies under Federal Registration**

The amount of life insurance in force in Canada has shown an almost continuous advance year by year since the beginning of the record in 1869. The amount per capita of the estimated population has more than doubled since the end of World War II—evidence of the general recognition of the value of life insurance for the adequate protection of dependants against misfortune. During 1957, life insurance business was transacted in Canada by 74 active companies having federal registration, including 32 Canadian, 8 British and 34 foreign companies. In addition there were 6 British and 4 foreign companies which wrote no new insurance during the year, their business being confined to policies already on their books. One other foreign company, first registered in 1957, transacted no business in Canada during the year.

The operations analysed in the tables of this Subsection, with the exception of Table 6, include only those companies under federal registration and are exclusive of fraternal organizations and provincial licensees. However, companies under federal registration account for about 93 p.c. of the life insurance in force in Canada.

3.—Life Insurance Effected and in Force in Canada by Companies under Federal Registration, Decennially 1880-1950 and Annually 1951-57

NOTE.—Figures for 1869-1900 are given in the 1938 Year Book, p. 958; for 1901-39 in the 1942 edition, p. 855; and for 1940-49 in the 1957-58 edition, p. 1168. Statistics of fraternal society insurance, excluded here, are given at pp. 1139-1141.

Year	New Insurance Effected during Year	Insurance in Force Dec. 31				Insurance in Force per Capita ¹
		Canadian Companies	British Companies	Foreign Companies	Total	
	\$	\$	\$	\$	\$	\$
1880.....	13,906,887	37,838,518	19,789,863	33,643,745	91,272,126	21.45
1890.....	39,802,956	135,218,990	31,613,730	81,591,847	248,424,567	51.98
1900.....	67,729,115	267,151,086	39,485,344	124,433,416	431,069,846	81.32
1910.....	150,785,305	565,667,110	47,816,775	242,629,174	856,113,059	122.51
1920.....	630,110,900	1,664,348,605	76,883,090	915,793,798	2,657,025,493	310.55
1930.....	884,749,748	4,319,370,209	117,410,860	2,055,502,125	6,492,283,194	636.00
1940.....	590,205,536	4,609,213,977	145,603,299	2,220,505,184	6,975,322,460	612.89
1950.....	1,798,864,211	10,756,249,942	342,878,530	4,646,707,595	15,745,886,087	1,148.33
1951.....	1,990,926,006	11,807,992,826	391,382,883	5,036,207,593	17,235,583,302	1,230.32
1952.....	2,287,264,465	13,085,349,418	443,275,711	5,562,003,368	19,090,628,497	1,322.98
1953.....	2,551,393,073	14,526,740,295	519,137,847	6,181,027,477	21,226,905,619	1,436.09
1954.....	2,656,722,341	15,765,916,390	596,756,619	6,771,905,859	23,134,578,868	1,513.35
1955.....	3,154,670,863	17,401,229,498	691,660,141	7,358,681,886	25,451,571,125	1,621.33
1956.....	4,119,767,664	19,783,194,985	819,968,279	8,484,252,879	29,087,416,143	1,808.81
1957.....	4,936,358,903	22,262,730,280	994,762,620	9,829,563,601	33,087,056,501	1,994.52

¹ Based on official estimates of population given at p. 162.

4.—Summary of Life Insurance in Canada Transacted by Companies under Federal Registration, 1955-57

Item	1955	1956	1957
Canadian Companies—			
New policies effected during year.....No.	351,659	374,767	387,840
\$	2,149,050,981	2,697,441,456	3,037,487,837
Policies in force Dec. 31.....No.	4,592,921	4,733,923	4,843,653
\$	17,401,229,498	19,783,194,985	22,262,730,280
Policies ceased by death or maturity.....No.	37,287	40,829	46,167
\$	102,381,507	114,713,331	126,600,544
Insurance premiums.....\$	347,407,718	377,531,692	405,518,078
Claims incurred ¹\$	107,953,211	120,978,895	133,194,500
British Companies—			
New policies effected during year.....No.	20,590	24,428	31,202
\$	124,429,637	159,182,181	226,584,627
Policies in force Dec. 31.....No.	191,687	205,218	222,504
\$	691,660,141	819,968,279	994,762,620
Policies ceased by death or maturity.....No.	2,176	2,203	2,318
\$	3,275,821	4,572,232	4,417,361
Insurance premiums.....\$	16,528,219	19,759,474	21,368,630
Claims incurred ¹\$	3,717,408	5,066,155	5,147,924
Foreign Companies—			
New policies effected during year.....No.	356,508	352,594	331,946
\$	881,190,245	1,263,144,027	1,672,286,439
Policies in force Dec. 31.....No.	5,143,250	5,160,454	5,037,882
\$	7,358,681,886	8,484,252,879	9,829,563,601
Policies ceased by death or maturity.....No.	61,724	65,317	77,606
\$	46,730,255	50,861,990	57,912,389
Insurance premiums.....\$	156,162,253	167,432,268	180,224,032
Claims incurred ¹\$	50,212,586	54,806,973	62,327,448
All Companies—			
New policies effected during year.....No.	728,757	751,789	750,988
\$	3,154,670,863	4,119,767,664	4,936,358,903
Policies in force Dec. 31.....No.	9,927,853	10,099,595	10,104,039
\$	25,451,571,525	29,087,416,143	33,087,056,501
Policies ceased by death or maturity.....No.	101,187	108,349	126,091
\$	152,387,583	170,147,553	188,930,294
Insurance premiums.....\$	520,098,190	564,723,434	607,110,740
Claims incurred ¹\$	161,883,205	180,852,023	200,669,872

¹ Death, disability and maturity of insurance and annuity contracts.

5.—Ordinary and Industrial Life Insurance Policies Effected and in Force in Canada by Companies under Federal Registration, 1955-57

Year, Type of Policy and Nationality of Company	New Policies Effected			Policies in Force Dec. 31		
	No.	Amount	Average Amount per Policy	No.	Amount	Average Amount per Policy
		\$	\$		\$	\$
1955						
Ordinary Policies—						
Canadian.....	303,507	1,666,529,229	5,491	3,926,252	12,884,370,483	3,282
British.....	20,564	121,477,288	5,907	151,764	655,173,628	4,317
Foreign.....	239,219	662,472,508	2,769	1,975,381	4,094,475,717	2,073
Industrial Policies—						
Canadian.....	46,966	53,410,346	1,137	657,650	571,120,106	868
British.....	—	—	—	39,821	5,718,334	144
Foreign.....	115,960	53,499,320	461	3,161,004	1,117,247,581	353
1956						
Ordinary Policies—						
Canadian.....	329,413	2,010,864,403	6,104	4,070,464	14,295,274,819	3,512
British.....	24,396	154,740,111	6,343	167,491	775,957,517	4,633
Foreign.....	274,157	916,533,176	3,343	2,132,126	4,786,009,610	2,245
Industrial Policies—						
Canadian.....	43,797	50,650,450	1,156	653,418	530,676,297	889
British.....	—	—	—	37,595	5,302,185	141
Foreign.....	74,527	34,628,743	465	3,017,999	1,081,932,330	358
1957						
Ordinary Policies—						
Canadian.....	343,380	2,277,740,846	6,633	4,191,564	15,780,032,194	3,765
British.....	31,142	207,359,637	6,659	186,989	931,418,618	4,981
Foreign.....	280,613	1,375,992,562	4,904	2,231,948	5,612,777,523	2,515
Industrial Policies—						
Canadian.....	42,693	50,888,306	1,192	640,983	583,214,543	910
British.....	—	—	—	35,333	4,892,496	138
Foreign.....	47,433	21,983,748	463	2,792,828	1,011,294,853	362

6.—Group Life Insurance Effected and in Force in Canada by Companies under Federal Registration, 1955-57

Year and Nationality of Company	Effected		In Force Dec. 31			
	Policies	Amount	Policies	Certificates	Amount	Average Amount per Certificate
	No.	\$	No.	No.	\$	\$
1955						
Canadian.....	1,188	429,111,406	9,019	3,236,514	3,945,738,909	1,219
British.....	26	2,952,349	102	9,814	30,768,179	3,135
Foreign.....	1,329	165,218,417	6,865	1,802,887	2,146,958,588	1,191
1956						
Canadian.....	1,557	635,926,603	10,041	4,146,649	4,907,243,869	1,183
British.....	32	4,442,070	132	11,865	38,708,577	3,262
Foreign.....	3,910	311,982,108	10,329	2,068,870	2,616,310,939	1,265
1957						
Canadian.....	1,767	708,858,685	11,106	5,415,995	5,899,483,543	1,089
British.....	60	19,224,990	182	15,794	58,451,506	3,701
Foreign.....	3,900	274,310,129	13,106	2,317,711	3,205,491,225	1,383

7.—Insurance Death Rates in Canada, 1955-57

Type of Insurer	1955			1956			1957		
	Policies Exposed to Risk	Policies Terminated by Death	Death Rate per 1,000	Policies Exposed to Risk	Policies Terminated by Death	Death Rate per 1,000	Policies Exposed to Risk	Policies Terminated by Death	Death Rate per 1,000
	No.	No.		No.	No.		No.	No.	
All companies, ordinary.....	5,934,497	30,641	5.2	6,228,005	32,531	5.2	6,507,447	34,312	5.3
All companies, industrial.....	3,935,385	29,711	7.6	3,799,191	30,895	8.1	3,604,410	30,665	8.5
Fraternal benefit societies.....	362,670	3,878	10.7	371,406	3,994	10.8	387,755	4,097	10.6
Totals.....	10,232,552	64,230	6.3	10,398,602	67,420	6.5	10,499,612	69,074	6.6

Subsection 3.—Finances of Companies Transacting Life Insurance under Federal Registration

The financial statistics in Tables 8 and 9 relate only to life insurance transacted by companies under federal registration. The figures for British and foreign companies apply to their assets, liabilities and operations in Canada only. On the other hand, the assets and liabilities, revenue and expenditure of Canadian companies are given for total business, including business arising out of Canada as well as in Canada.

8.—Total Assets and Liabilities for Life Insurance of Canadian Companies under Federal Registration and Assets and Liabilities in Canada for Life Insurance of British and Foreign Companies under Federal Registration, 1955-57.

NOTE.—Beginning with 1954, the forms of annual statement for life insurance transacted by registered companies were different from those formerly required. For this reason, figures for 1954 and subsequent years are not strictly comparable with those for 1953 and previous years.

Assets and Liabilities	1955	1956	1957
	\$	\$	\$
Canadian Companies			
Total Assets!	6,278,437,331	6,669,605,421	7,103,924,642
Bonds.....	3,399,239,159	3,382,818,042	3,528,395,387
Stocks.....	331,109,151	355,444,914	354,571,408
Mortgage loans on real estate.....	1,907,768,012	2,228,944,199	2,432,230,118
Agreements of sale of real estate.....	6,273,664	5,674,120	5,352,872
Real estate.....	157,322,383	185,787,700	227,651,658
Collateral loans.....	41,651	54,711	56,752
Policy loans.....	299,009,095	320,413,469	352,057,583
Cash.....	60,308,475	64,047,524	66,668,934
Investment income, due and accrued.....	56,102,418	59,609,374	65,126,851
Outstanding insurance premiums and annuity considerations.....	53,263,727	56,435,022	61,934,972
Other assets.....	7,999,596	10,376,346	9,878,107
Total Liabilities.....	5,924,339,215	6,285,301,743	6,687,122,935
Actuarial reserve for contracts in force.....	4,980,295,198	5,277,270,480	5,603,059,980
Amounts on deposit pertaining to contracts.....	522,203,128	544,346,054	559,141,650
Outstanding claims under contracts.....	50,000,896	54,504,703	58,513,401
Other liabilities.....	371,839,993	409,180,506	466,407,904
Surplus.....	340,670,776	370,620,688	402,970,112
Capital stock paid up.....	13,427,340	13,682,990	13,831,595

For footnote, see end of table, p. 1138.

8.—Total Assets and Liabilities for Life Insurance of Canadian Companies under Federal Registration and Assets and Liabilities in Canada for Life Insurance of British and Foreign Companies under Federal Registration, 1955-57—concluded.

Assets and Liabilities	1955	1956	1957
	£	\$	\$
British Companies			
Assets in Canada¹	263,895,518	284,339,559	317,544,069
Bonds	159,830,131	161,069,833	182,130,139
Stocks	44,689,551	49,650,673	45,993,074
Mortgage loans on real estate	45,580,976	59,066,079	71,757,978
Real estate	3,769,415	3,823,933	5,190,771
Collateral loans	—	—	30,672
Policy loans	4,805,767	5,569,502	6,688,440
Cash	3,133,203	2,776,569	2,910,756
Investment income, due and accrued	816,565	939,666	1,096,811
Outstanding insurance premiums and annuity considerations	1,143,406	1,295,972	1,650,513
Other assets	126,504	147,332	94,915
Liabilities in Canada	224,542,319	258,508,138	293,441,989
Actuarial reserve for contracts in force	220,565,756	252,810,542	287,488,068
Outstanding claims under contracts	1,033,698	2,203,921	2,302,243
Other liabilities	2,892,865	3,493,675	3,651,678
Excess of assets over liabilities in Canada	39,353,199	25,831,421	24,102,080
Foreign Companies			
Assets in Canada²	1,260,803,893	1,248,135,204	1,391,762,031
Bonds	976,991,572	919,065,711	990,184,385
Stocks	2,040,000	1,920,000	1,680,000
Mortgage loans on real estate	191,872,727	232,349,015	298,158,216
Real estate	2,359,717	2,967,693	4,435,263
Policy loans	58,564,638	61,803,000	64,796,890
Cash	11,922,796	10,752,445	10,857,798
Investment income, due and accrued	12,008,391	13,430,502	15,019,272
Outstanding insurance premiums and annuity considerations	4,928,429	5,714,077	6,338,063
Other assets	115,623	132,761	292,144
Liabilities in Canada	1,142,302,030	1,203,509,732	1,252,547,731
Actuarial reserve for contracts in force	1,053,975,949	1,109,151,162	1,155,039,935
Outstanding claims under contracts	8,371,379	9,568,572	10,025,842
Other liabilities	79,954,702	84,789,988	87,481,954
Excess of assets over liabilities in Canada	118,501,863	44,625,472	139,214,300

¹ At book values. The liabilities include a reserve equal to the amount, if any, by which the total book value of bonds, stocks and real estate exceeds the total market value (or amortized value where applicable). ² At market values.

9.—Total Revenue and Expenditure for Life Insurance Transacted by Canadian Companies under Federal Registration and Revenue and Expenditure in Canada for Life Insurance Transacted by British and Foreign Companies under Federal Registration, 1955-57.

Note.—Beginning with 1954, the forms of annual statement for life insurance transacted by registered companies were different from those formerly required. For this reason, figures for 1954 and subsequent years are not strictly comparable with those for 1953 and previous years.

Revenue and Expenditure	1955	1956	1957
	\$	\$	\$
Canadian Companies			
Total Revenue	995,544,068	1,056,775,813	1,144,998,110
Insurance premiums and annuity considerations	719,881,207	758,619,224	813,269,328
Investment income	246,248,673	270,454,649	301,124,391
Sundry items	29,414,188	27,701,940	30,604,391
Total Expenditure	945,260,067	1,002,652,421	1,083,928,186
Claims incurred	323,181,859	349,072,338	392,853,193
Normal increase in actuarial reserve	321,052,491	328,052,231	333,260,705
Taxes, licences and fees	18,984,460	20,260,986	21,794,814
Commissions and general expenses	150,465,249	164,929,268	181,491,681
Sundry items	48,635,875	50,745,716	55,712,245
Dividends to policyholders	70,525,717	81,178,919	89,973,796
Increase in provision for profits to policyholders	12,414,436	8,412,963	8,841,752

9.—Total Revenue and Expenditure for Life Insurance Transacted by Canadian Companies under Federal Registration and Revenue and Expenditure in Canada for Life Insurance Transacted by British and Foreign Companies under Federal Registration, 1955-57—concluded.

Revenue and Expenditure	1955	1956	1957
	\$	\$	\$
Canadian Companies—concluded			
Analysis of Increase in Surplus—			
Excess of revenue over expenditure.....	50,283,981	54,123,392	61,069,924
Net capital gain on investments.....	9,978,060	5,708,517	4,798,409
Other credits to surplus (net).....	6,283,794	—1,811,073	2,127,755
Net increase in special reserves or funds.....	—1,675,318	—13,755,598	—28,860,663
Special increase in actuarial reserve.....	—15,338,472	—10,904,848	—3,259,569
Dividends to shareholders.....	—3,133,891	—3,408,835	—3,507,576
Increase in surplus (policyholders and shareholders).....	46,353,154	29,956,555	32,368,280
British Companies			
Revenue in Canada.....	50,399,004	58,304,361	62,466,080
Insurance premiums and annuity considerations.....	40,447,928	46,651,341	48,692,259
Investment income.....	9,239,343	11,043,121	13,165,407
Sundry items.....	711,733	609,899	608,414
Expenditure in Canada.....	20,757,514	27,410,445	28,758,047
Claims incurred.....	10,631,587	14,396,371	14,789,551
Taxes, licences and fees.....	391,801	439,636	508,811
Commissions and general expenses.....	6,874,757	8,330,419	10,330,293
Other expenditure.....	467,397	766,102	660,137
Dividends to policyholders.....	2,391,972	3,477,917	2,469,255
Foreign Companies			
Revenue in Canada.....	218,858,547	235,823,146	257,743,120
Insurance premiums and annuity considerations.....	164,267,699	176,614,651	191,044,136
Investment income.....	45,868,654	49,989,480	57,021,447
Sundry items.....	8,722,194	9,219,015	9,677,537
Expenditure in Canada.....	147,913,683	164,341,693	195,061,765
Claims incurred.....	75,856,746	81,958,540	100,887,924
Taxes, licences and fees.....	3,552,501	4,175,255	5,037,039
Commissions and general expenses.....	38,623,304	45,013,227	52,386,589
Other expenditure.....	7,661,931	8,615,035	10,659,246
Dividends to policyholders.....	22,219,201	24,579,636	26,090,967

Subsection 4.—Life Insurance Effected through Fraternal Benefit Societies

In addition to life insurance, some fraternal benefit societies grant other insurance benefits to members, notably sickness benefits, but these are relatively unimportant. Table 10 gives statistics of life insurance effected through fraternal benefit societies by Canadian members and Table 11 shows statistics of assets, liabilities, income and expenditure relating to all business of Canadian societies and to the business in Canada of foreign societies. The rates charged by these societies are computed to be sufficient to provide the benefits granted, having regard for actuarial principles. The benefit funds of each society must be valued annually by a qualified actuary (Fellow, by examination, of the Institute of Actuaries of Great Britain, of the Faculty of Actuaries in Scotland, or of the Society of Actuaries) and a readjustment of rates or benefits must be made, unless the actuary certifies to the solvency of each fund. The first sections of Tables 10 and 11 relate to the 16 Canadian societies registered by the federal Department of Insurance, only one of which does not grant life insurance benefits.

Under an amendment to the Insurance Act, effective Jan. 1, 1920, all foreign fraternal benefit societies were required to obtain authority from the Federal Government prior to transacting business in Canada. However, any such societies which at that date were transacting business under provincial licences, though forbidden to accept new members,

were permitted to continue all necessary transactions in respect of insurance already in force. Most of these societies and some foreign societies that had not previously been licensed by the provinces have since obtained federal authority to transact business. During 1957, 31 foreign fraternal benefit societies transacted business in Canada; two of these societies do not grant life insurance benefits.

10.—Summary of Life Insurance in Canada Transacted by Fraternal Benefit Societies under Federal Registration, 1955-57

Item	1955	1956	1957
Canadian Societies			
Premium income.....	\$ 2,950,276	3,420,452	3,860,231
Benefits paid.....	\$ 3,372,010	3,421,129	3,557,022
New certificates effected.....	No. 22,673	26,157	27,590
Certificates in force Dec. 31.....	\$ 40,176,413	46,481,330	53,371,945
	No. 213,264	224,187	231,657
Certificates ceased as claims.....	\$ 215,050,782	238,087,472	263,477,451
	No. 2,987	3,066	2,994
	\$ 2,431,194	2,544,066	2,480,924
Foreign Societies			
Premium income.....	\$ 3,666,533	3,735,058	3,954,895
Benefits paid.....	\$ 2,435,430	2,631,055	2,911,224
New certificates effected.....	No. 8,829	9,517	9,972
Certificates in force Dec. 31.....	\$ 18,349,594	21,153,609	25,990,909
	No. 122,197	124,758	131,874
Certificates ceased as claims.....	\$ 150,844,516	161,188,548	177,453,616
	No. 1,419	1,447	1,517
	\$ 1,447,618	1,534,103	1,655,135

11.—Financial Statistics for Fraternal Benefit Societies under Federal Registration, 1955-57

Item	1955	1956	1957
Canadian Societies¹			
Assets.....	\$ 112,008,594	\$ 118,214,286	\$ 125,070,405
Real estate.....	4,886,953	4,657,906	4,463,845
Real estate held under agreements of sale.....	707,933	752,791	707,318
Loans on real estate.....	11,023,159	13,188,424	13,842,018
Policy loans and liens.....	4,107,531	4,202,091	4,459,642
Bonds, debentures and stocks.....	86,610,561	91,752,653	97,511,214
Cash.....	2,698,276	1,461,695	1,697,695
Interest and rents due or accrued.....	751,279	819,744	924,549
Outstanding and deferred premiums and contributions.....	1,122,173	1,263,350	1,346,904
Other assets.....	100,729	115,632	117,220
Liabilities.....	99,849,317	106,461,553	113,112,490
Reserve under contracts in force.....	87,744,278	92,075,848	96,717,273
Outstanding claims.....	456,348	468,822	542,812
Other liabilities.....	11,648,691	13,916,883	15,852,405
Income.....	19,499,093	20,763,777	23,203,914
Premiums.....	6,049,680	7,735,412	9,557,654
Received for expense purposes.....	7,071,185	7,240,359	7,867,027
Interest, dividends and rents.....	4,171,103	4,351,710	4,826,775
Other income.....	2,207,125	1,436,296	952,458
Expenditure.....	14,091,687	14,439,860	15,599,867
Benefits paid under certificates.....	6,808,940	6,801,783	7,252,349
Expenses.....	7,049,061	7,402,530	8,075,480
Other expenditure.....	233,686	235,547	272,038
Excess of income over expenditure.....	5,407,406	6,323,917	7,604,047

¹ All funds, business in and out of Canada.

**11.—Financial Statistics for Fraternal Benefit Societies under Federal Registration,
1955-57—concluded**

Item	1955	1956	1957
	\$	\$	\$
Foreign Societies¹			
Assets	41,138,912	40,746,405	48,001,276
Real estate.....	952,595	952,595	952,595
Loans on real estate.....	432,332	1,176,584	1,673,465
Policy loans and liens.....	2,356,563	2,574,379	2,748,123
Bonds, debentures and stocks.....	35,304,760	34,080,021	40,469,280
Cash.....	1,429,006	1,250,264	1,276,908
Interest and rents due or accrued.....	343,158	368,875	450,071
Outstanding and deferred premiums and contributions.....	320,498	339,862	410,660
Other assets.....	—	3,825	20,174
Liabilities	35,633,433	37,586,413	40,579,521
Reserve under contracts in force.....	32,288,849	34,014,242	35,836,160
Outstanding claims.....	580,839	572,087	766,464
Other liabilities.....	2,753,745	2,999,484	3,976,897
Income	8,419,127	8,837,182	9,510,420
Premiums.....	5,240,503	5,390,553	5,666,765
Received for expense purposes.....	1,314,206	1,456,058	1,588,960
Interest, dividends and rents.....	1,270,595	1,367,495	1,557,018
Other income.....	593,823	623,076	697,677
Expenditure	4,852,120	5,272,598	5,870,211
Benefits paid under certificates.....	3,391,021	3,720,121	4,063,111
Expenses.....	938,277	1,023,908	1,159,392
Other expenditure.....	477,822	528,569	647,708
Excess of income over expenditure	3,567,007	3,564,584	3,640,209

¹ All funds, business in Canada only.

**Subsection 5.—Life Insurance Effectuated and in Force Outside Canada by
Canadian Companies under Federal Registration**

In this Subsection, there are given for the years 1955 and 1956 summary statistics of insurance effectuated and insurance in force at the end of the year in currencies other than Canadian dollars, as written by Canadian companies under federal registration. The statistics for individual companies are shown in Table 12 and for individual currencies in Table 13. The data given in both of these tables are in terms of Canadian dollars, the conversions from the various foreign currencies having been made at the book rates of exchange used by the various companies. Although these book rates of exchange do not follow the day-to-day fluctuations in the current rates of exchange, they are adjusted when necessary to keep them reasonably in line with the current rates.

Approximately 71 p.c. of all business in force in currencies other than Canadian is in United States currency and 17 p.c. is in sterling. From a slightly different point of view, approximately 25 p.c. of this business in force is in currencies of Commonwealth countries other than Canada, and 75 p.c. in currencies of foreign countries.

Canadian life insurance companies operating under federal registration at Dec. 31, 1956, had life insurance in force amounting to \$3,723,055,155 in countries outside Canada. Insurance in force in currencies other than Canadian dollars amounted to \$8,672,786,058; the difference between these figures is presumably the net amount of business in countries outside Canada transacted in Canadian currency. The business in force in Canada of Canadian companies registered by the Federal Government amounted to \$19,783,194,985 at Dec. 31, 1956, and the total business on the books of these companies, in and out of Canada, amounted to \$28,506,250,140. Thus, about 31 p.c. of the total business in force for Canadian companies registered by the Federal Government was in force in countries outside Canada.

In connection with their business outside Canada, the Canadian life insurance companies registered by the Federal Government held, at the end of 1956, Commonwealth and foreign investments in the amount of \$2,301,674,937.

12.—Life Insurance Effectuated and in Force for Canadian Companies (excluding Fraternal Societies) under Federal Registration, in Currencies other than Canadian Dollars, by Company, 1955 and 1956.

Year and Company	Insurance Effectuated			Insurance in Force Dec. 31		
	Common-wealth Currencies	Foreign Currencies	Total	Common-wealth Currencies	Foreign Currencies	Total
	\$	\$	\$	\$	\$	\$
1955						
Alliance Nationale ¹	—	—	—	—	3,424,845	3,424,845
Canada.....	27,722,218	74,620,408	102,342,626	188,114,258	455,473,137	643,587,395
Commercial.....	—	—	—	—	35,000	35,000
Confederation.....	20,927,621	62,924,932	83,852,553	170,153,654	286,192,488	456,346,142
Continental.....	—	—	—	—	104,414	127,051
Crown.....	9,325,997	95,342,211	104,668,208	81,483,378	446,449,666	527,933,044
Dominion.....	1,691,593	18,077,925	19,769,518	13,125,397	124,006,515	137,131,912
Dom. of Canada General	499,430	—	499,430	3,516,396	3,000	3,519,396
T. Eaton.....	—	—	—	12,500	3,333	15,833
Equitable.....	—	—	—	—	93,567	93,567
Great-West.....	—	158,784,651	158,784,651	107,070	1,004,024,365	1,004,131,435
Imperial.....	16,057,702	2,856,778	18,914,480	90,988,983	42,064,379	133,053,362
London.....	—	1,371,572	1,371,572	—	7,055,871	7,055,871
Manufacturers.....	68,943,295	112,781,401	181,704,696	433,363,045	642,380,994	1,075,744,039
Maritime.....	79,644	15,000	94,644	1,409,742	55,962	1,465,704
Monarch.....	—	36,103	36,103	—	348,935	348,935
Montreal.....	—	—	—	186,264	296,565	482,829
Mutual.....	—	2,229,378	2,229,378	721,531	19,817,721	20,539,252
National.....	3,617,463	1,920,173	5,537,636	13,299,443	5,606,932	18,906,375
North American.....	4,031,193	28,243,533	32,274,726	20,180,156	131,636,153	151,816,309
Northern.....	—	3,087,376	3,087,376	45,717	21,231,537	21,277,304
Sauvegarde.....	—	—	—	—	5,000	5,000
Sun.....	145,573,034	296,378,927	441,952,011	954,484,015	2,633,913,017	3,638,397,032
Western.....	—	—	—	—	50,936	50,936
Totals, 1955.....	298,469,240	858,655,368	1,157,124,608	1,971,214,186	5,874,274,382	7,845,488,568
1956						
Alliance Nationale ¹	—	—	—	—	3,335,585	3,335,585
Canada.....	32,240,936	93,161,154	125,402,090	209,510,944	508,870,208	718,381,152
Commercial.....	—	—	—	—	35,000	35,000
Confederation.....	20,630,128	56,710,184	77,340,312	183,558,524	306,866,043	490,424,567
Continental.....	—	—	—	—	99,414	117,379
Crown.....	12,401,183	100,567,800	112,968,983	69,269,333	523,846,078	593,115,411
Dominion.....	1,716,429	22,165,563	23,881,992	14,149,819	139,204,968	153,354,787
Dom. of Canada General	223,398	—	223,398	2,153,532	6,000	2,159,632
T. Eaton.....	—	—	—	222,800	3,333	226,133
Equitable.....	—	—	—	—	84,560	84,560
Great-West.....	—	218,305,971	218,305,971	105,654	1,208,039,300	1,208,144,954
Imperial.....	17,007,039	3,679,070	20,686,109	103,296,724	42,832,866	146,129,590
London.....	—	1,523,145	1,523,145	—	7,912,273	7,912,273
Manufacturers.....	90,992,408	122,403,238	213,395,646	534,679,787	788,701,254	1,323,381,041
Maritime.....	98,901	2,000	100,901	1,481,928	48,679	1,530,607
Monarch.....	—	54,534	54,534	—	361,433	361,433
Montreal.....	—	—	—	166,905	282,059	448,964
Mutual.....	—	2,901,158	2,901,158	648,974	21,348,634	21,997,608
National.....	3,989,259	2,048,989	6,038,248	15,929,935	6,970,925	22,900,864
North American.....	5,300,575	43,089,563	48,390,138	24,800,951	167,142,333	191,943,284
Northern.....	—	3,042,120	3,042,120	40,717	23,114,710	23,155,427
Sauvegarde.....	—	—	—	—	5,000	5,000
Sun.....	148,940,300	263,235,583	412,175,883	965,120,610	2,798,445,241	3,763,565,851
Western.....	—	24,120	24,120	—	75,056	75,056
Totals, 1956.....	333,540,556	932,914,192	1,266,454,748	2,125,155,102	6,547,630,956	8,672,786,058

¹ Effective Jan. 1, 1958, the name was changed to Alliance Mutual Life Insurance Company.

13.—Life Insurance Effectuated and in Force for Canadian Companies (excluding Fraternal Societies) under Federal Registration, in Currencies other than Canadian Dollars, by Currency, 1955 and 1956.

Currency	1955		1956	
	Insurance Effectuated	Insurance in Force	Insurance Effectuated	Insurance in Force
	\$	\$	\$	\$
Commonwealth Currencies	298,469,240	1,971,214,186	333,540,556	2,125,155,102
Pounds—				
Sterling.....	183,663,795	1,290,641,849	207,340,614	1,442,968,805
Australia.....	—	31,368	—	31,368
British West Indies and Bermuda.....	10,528,023	72,351,055	13,168,384	81,603,771
Northern Rhodesia.....	534,380	1,485,877	1,196,680	2,610,219
South Africa.....	53,092,945	277,371,173	64,404,334	335,838,849
Southern Rhodesia.....	6,397,371	20,516,983	9,940,213	31,372,840
Dollars—				
British Honduras.....	43,775	726,599	144,365	848,036
British West Indies, Bermuda and British Guiana.....	18,318,584	102,541,592	21,614,776	116,598,460
Hong Kong.....	1,169,123	10,691,108	1,238,350	11,151,162
Malayan Straits.....	5,104,694	27,033,855	4,284,996	27,708,439
Rupees—				
Ceylon.....	4,747,016	35,586,126	5,087,886	39,148,185
India.....	10,964,094	108,881,654	1,304,078	8,688,233
Pakistan.....	—	1,059,083	—	1,417,503
Shillings—				
East Africa.....	3,905,440	22,295,864	3,815,880	25,169,232
Foreign Currencies	858,655,368	5,874,274,382	932,914,192	6,547,630,956
Bahts (Thailand).....	—	150,977	2,160	132,734
Bolivars (Venezuela).....	2,283,193	33,193,201	3,507,739	32,986,715
Cordobas (Nicaragua).....	—	7,907	—	6,798
Dollars (United States of America).....	816,631,795	5,505,143,354	884,394,362	6,183,842,670
Francs (France).....	—	11,470	—	10,855
Francs (Switzerland).....	—	7,280	—	7,280
Guilders (Netherlands).....	—	554,373	54,560	565,051
Guilders (Netherlands Antilles).....	1,591,162	12,378,445	2,086,807	13,170,216
Kyats (Burma).....	—	472,775	—	382,322
Pesos (Argentina).....	804,157	11,171,523	428,005	11,058,859
Pesos (Chile).....	—	358	—	361
Pesos (Colombia).....	5,963,418	25,068,014	5,179,441	5,382,808
Pesos (Cuba).....	16,090,779	170,770,522	20,362,234	177,247,089
Pesos (Dominican Republic).....	2,624,305	4,246,898	2,098,372	5,071,270
Pesos (Mexico).....	1,400,854	10,179,534	741,205	8,814,508
Pesos (Philippines).....	8,375,801	60,066,402	8,767,619	63,741,312
Pounds (Egypt).....	—	25,973,544	—	25,029,865
Pounds (Israel).....	2,889,904	9,858,314	5,291,688	14,969,386
Rupiahs (Indonesia).....	—	4,821,021	—	5,040,007
Soles (Peru).....	—	189,351	—	164,667
Yen (Japan).....	—	9,119	—	6,183
Grand Totals	1,157,124,608	7,845,488,568	1,266,454,748	8,672,786,058

Section 2.—Fire and Casualty Insurance

At the end of 1957, there were 307 companies registered by the Federal Government to transact fire insurance (82 Canadian, 89 British, and 136 foreign). Of that number, 294 companies (76 Canadian, 88 British, and 130 foreign) were also registered to transact casualty insurance. Thus it may be seen that most companies registered by the Federal Government to transact fire insurance in Canada also transact casualty insurance.

At the end of 1957, there were 84 companies registered by the Federal Government to transact casualty insurance but not fire insurance (17 Canadian, 6 British, and 61 foreign).

The figures in the preceding two paragraphs include 52 companies that were also registered to transact life insurance, 11 of which were registered for fire, life and casualty insurance and 41 for life and casualty but not fire insurance.

It should be noted that, in addition to the companies registered by the Federal Government to transact casualty insurance, there were 23 registered fraternal benefit societies transacting accident and sickness insurance, of which 20 also transacted life insurance.

As shown in Table 14, some fire and casualty insurance is transacted in Canada by companies that are provincially licensed only. These companies generally confine their operations to the province of incorporation but may be allowed to sell insurance in other provinces. Many of them are mutual organizations transacting only fire insurance on a county, municipal, or parish basis.

Table 14, summarizes net premiums written and net claims incurred for the years 1956 and 1957 in the fields of fire insurance and casualty insurance in Canada. These data are presented on the basis of the supervising government authorities for the companies concerned. The table relates only to insurance companies; no data are included with respect to fraternal benefit societies.

14.—Fire and Casualty Insurance Transacted in Canada, 1956 and 1957

Item	1956		1957	
	Net Premiums Written	Net Claims Incurred	Net Premiums Written	Net Claims Incurred
	\$	\$	\$	\$
Fire Insurance				
Federally registered companies.....	155,506,787	86,088,850	156,246,117	109,757,161
Provincial licensees.....	16,068,792	9,790,651	19,779,452	12,402,752
In province by which incorporated.....	15,212,086	9,182,170	18,532,188	11,458,077
Outside province by which incorporated.....	856,706	608,481	1,247,264	964,675
Lloyds, London.....	7,929,385	7,224,404	8,119,973	8,268,767
Totals, Fire.....	179,504,964	103,103,905	184,145,542	130,428,680
Casualty Insurance				
Federally registered companies.....	415,457,714	267,131,048	474,636,221	327,864,405
Provincial licensees.....	24,423,092	14,412,804	39,772,031	25,217,348
In province by which incorporated.....	22,037,214	12,614,208	34,768,279	21,800,276
Outside province by which incorporated.....	2,385,878	1,798,596	5,003,752	3,417,072
Lloyds, London.....	19,311,022	14,725,521	23,347,075	22,556,675
Totals, Casualty.....	459,191,828	296,269,373	537,755,327	375,638,428
Totals, Fire and Casualty.....	638,696,792	399,373,278	721,900,869	506,067,108

Subsection 1.—Fire Insurance Transacted in Canada by Companies under Federal Registration

The net premiums written have increased very rapidly in recent years, having almost tripled since the end of the World War II. The net claims incurred have kept pace with this increase in net premiums written.

**15.—Fire Insurance Transacted in Canada by Companies under
Federal Registration, 1946-57**

Year	Net Premiums Written during Year	Net Claims Incurred during Year	Year	Net Premiums Written during Year	Net Claims Incurred during Year
	\$	\$		\$	\$
1946.....	68,825,470	35,379,627	1952.....	139,777,732	61,124,918
1947.....	86,774,952	39,513,014	1953.....	145,937,546	66,787,604
1948.....	98,191,514	45,143,565	1954.....	148,446,105	70,445,544
1949.....	103,955,183	46,567,188	1955.....	146,444,845	77,836,245
1950.....	115,648,449	58,524,685	1956.....	155,506,787	86,088,850
1951.....	134,496,218	52,086,541	1957.....	156,246,117	109,757,161

**16.—Fire Insurance in Canada, classified by Province and by Nationality of Company under
Federal Registration, 1956 and 1957**

(Registered reinsurance deducted)

Year and Province	Canadian Companies		British Companies		Foreign Companies	
	Net Premiums Written	Net Claims Incurred	Net Premiums Written	Net Claims Incurred	Net Premiums Written	Net Claims Incurred
	\$	\$	\$	\$	\$	\$
1956						
Newfoundland.....	511,140	288,232	1,217,388	614,355	480,866	174,118
Prince Edward Island.....	206,810	55,832	349,155	67,170	144,915	49,836
Nova Scotia.....	1,886,253	905,040	2,775,651	1,507,661	1,546,863	964,068
New Brunswick.....	1,348,426	588,231	2,280,291	1,062,893	1,377,928	779,265
Quebec.....	16,333,900	9,057,634	18,103,429	10,388,995	18,485,791	13,147,775
Ontario.....	20,580,426	10,573,116	20,217,277	10,620,338	21,376,691	11,069,390
Manitoba.....	3,452,239	1,840,281	2,225,417	1,589,389	2,233,852	1,517,564
Saskatchewan.....	3,320,066	1,203,473	1,351,711	636,252	1,792,369	915,556
Alberta.....	3,736,746	1,487,267	3,465,180	1,160,760	3,209,473	1,431,596
British Columbia.....	3,917,334	2,371,233	4,659,032	2,976,641	5,636,722	3,452,219
All other Canada ¹	98,227	—257,926	458,532	451,395	200,137	63,433
Canada, 1956.....	55,392,167	28,112,413	57,083,063	31,075,849	56,490,607	33,564,600
1957						
Newfoundland.....	421,231	735,784	1,077,434	4,716,295	356,507	1,086,202
Prince Edward Island.....	204,763	99,652	378,153	236,867	143,672	96,012
Nova Scotia.....	1,771,267	1,063,514	2,692,354	1,576,214	1,166,926	984,607
New Brunswick.....	1,455,422	841,163	2,369,178	1,212,414	1,266,837	1,133,427
Quebec.....	16,749,210	12,250,794	18,052,166	14,953,715	17,074,327	14,210,604
Ontario.....	20,656,597	11,973,515	20,816,555	12,580,742	20,589,275	16,403,084
Manitoba.....	3,489,053	2,070,970	2,546,278	1,223,009	2,148,203	1,152,965
Saskatchewan.....	3,208,591	1,152,958	1,411,677	411,539	1,715,578	710,611
Alberta.....	3,728,467	1,931,827	3,881,067	2,441,153	3,310,073	1,885,108
British Columbia.....	3,996,071	2,429,161	5,793,013	3,973,886	5,363,214	3,139,041
All other Canada ¹	233,686	—258,998	373,336	510,678	72,312	56,847
Canada, 1957.....	55,914,378	34,290,340	59,391,211	43,836,512	53,206,924	40,858,508

¹ Includes the Yukon and Northwest Territories, also certain 'floaters' business that cannot be apportioned to any one province.

Subsection 2.—Fire Losses

The information in Tables 17 to 20, which deals with the loss of property and life caused by fire, has been summarized from the annual *Statistical Report of Fire Losses in Canada* prepared by the Dominion Fire Commissioner, Department of Public Works. Federal losses not included in these figures amounted to \$4,338,728 in 1957 from 2,404 fires.

17.—Statistics of Fire Losses, 1946-57

NOTE.—Figures for 1926-45 are given in the 1947 Year Book, p. 1078. Figures from 1898 may be obtained from the Dominion Fire Commissioner, Department of Public Works.

Year	Fires Reported	Property Loss ¹	Loss per Capita	Deaths by Fire	Year	Fires Reported	Property Loss ¹	Loss per Capita	Deaths by Fire
	No.	\$	\$	No.		No.	\$	\$	No.
1946.....	55,400	49,413,363	4.01	408	1952.....	64,057	80,902,205	5.74	565
1947.....	52,931	57,050,461	4.53	390	1953.....	67,519	84,270,896	5.70	477
1948.....	53,048	67,144,473	5.21	493	1954.....	68,638	91,440,478	6.01	479
1949.....	54,500	65,159,044	4.94	542	1955 ²	70,096	102,767,776	6.59	569
1950 ²	59,710	81,525,298	5.88	439	1956 ²	80,746	106,772,153	6.64	601
1951.....	60,317	76,157,807	5.64	535	1957.....	82,088	133,492,277	8.05	638

¹ Excludes forest fires and Federal Government property losses.

² Includes Newfoundland.

The provincial property losses for 1954-57 given in Table 18 include both insured and uninsured losses. The percentages of the provincial totals uninsured in 1957 were: Prince Edward Island 37; Nova Scotia 30; New Brunswick 23; Quebec 15; Ontario 13; Manitoba 17; Saskatchewan 10; Alberta 4; British Columbia 34; and the Yukon and Northwest Territories 30. Uninsured losses formed 16 p.c. of the total losses for Canada.

18.—Fire Losses, by Province, 1954-57

Province or Territory	1954	1955	1956	1957		
	Property Loss ¹			Fires Reported	Property Loss ¹	Loss per Capita
	\$	\$	\$	No.	\$	\$
Newfoundland.....	..	538,702	1,510,183	899	5,396,315	12.67
Prince Edward Island.....	452,644	878,124	444,180	436	891,015	9.01
Nova Scotia.....	2,892,511	2,495,579	4,024,029	1,970	3,436,728	4.90
New Brunswick.....	2,683,195	3,127,983	3,918,448	1,824	4,448,217	7.87
Quebec.....	28,926,095	38,060,125	36,900,300	37,194	48,408,380	10.17
Ontario.....	29,275,559	29,607,786	29,189,908	24,964	43,439,433	7.73
Manitoba.....	5,827,145	4,330,540	5,046,372	2,158	4,005,283	4.66
Saskatchewan.....	3,125,924	5,902,422	2,956,382	1,772	2,063,809	2.35
Alberta.....	7,657,085	6,810,883	6,840,901	2,980	6,532,451	5.63
British Columbia.....	10,177,702	10,889,620	15,308,745	7,797	14,534,628	9.77
Yukon and Northwest Territories.....	422,618	126,012	632,705	94	336,018	11.16
Canada.....	91,440,478	102,767,776	106,772,153	82,088	133,492,277	8.05

¹ Excludes forest fires and Federal Government property losses.

19.—Fire Losses, by Type of Property, 1955-57

Type of Property	1955		1956		1957	
	Fires Reported	Property Loss	Fires Reported	Property Loss	Fires Reported	Property Loss
	No.	\$	No.	\$	No.	\$
Residential.....	56,217	21,246,775	60,771	26,127,326	61,099	30,667,492
Mercantile.....	7,562	29,873,923	7,760	33,119,000	7,937	43,902,473
Farm.....	5,166	8,680,817	5,292	8,585,457	5,099	9,445,788
Manufacturing.....	1,773	23,942,323	1,292	13,604,843	1,345	16,355,401
Institutional and assembly.....	914	6,640,949	925	5,674,618	1,042	7,863,917
Miscellaneous.....	4,464	12,382,989	4,706	19,660,909	5,566	25,257,206
Totals.....	76,096	102,767,776	80,746	106,772,153	82,088	133,492,277

20.—Value of Property Loss, by Reported Cause of Fire, 1955-57

Reported Cause	1955		1956		1957	
	Fires Reported	Property Loss	Fires Reported	Property Loss	Fires Reported	Property Loss
	No.	\$	No.	\$	No.	\$
Smokers' carelessness.....	29,202	4,583,118	30,974	5,150,175	31,425	6,022,515
Stoves, furnaces, boilers and smoke pipes.....	7,408	6,541,011	5,401	5,452,350	6,570	6,486,429
Electrical wiring and appliances.....	6,563	10,825,587	6,955	12,897,828	7,461	16,224,484
Matches.....	2,236	1,147,372	2,295	1,543,228	2,307	2,174,771
Defective and overheated chimneys and flues.....	2,937	2,222,319	4,632	3,179,316	3,633	2,628,501
Hot ashes, coals and open fires.....	2,099	1,426,240	1,986	1,477,492	2,014	2,058,806
Petroleum and its products.....	1,985	3,403,713	1,805	5,332,913	1,638	3,140,335
Lights, other than electric.....	1,434	1,298,240	1,480	1,989,111	2,183	6,647,458
Lightning.....	2,076	1,513,405	2,186	2,765,426	2,096	1,407,691
Sparks on roofs.....	476	474,312	475	558,156	553	641,494
Exposure fires.....	555	1,557,258	600	1,640,376	565	1,511,870
Spontaneous ignition.....	327	2,434,512	339	1,128,670	338	1,656,533
Incendiarism.....	307	1,910,512	317	2,011,835	454	2,019,602
Miscellaneous known causes (explosions, fireworks, friction, hot grease or metal, steam or hot water pipes, etc.).....	7,863	8,060,188	10,448	6,229,181	8,022	8,881,661
Unknown.....	10,628	55,369,989	10,853	55,416,096	13,829	71,990,127
Totals.....	76,096	102,767,776	80,746	106,772,153	82,088	133,492,277

Subsection 3.—Casualty Insurance Transacted in Canada by Companies under Federal Registration

The various classes of casualty insurance are shown in Table 21. These figures relate only to companies registered by the Federal Government.

21.—Net Casualty Premiums Written, Premiums Earned and Claims Incurred in Canada, 1957

Note.—Excluding marine insurance (*see below*). Less all reinsurance for Canadian companies and registered or licensed reinsurance only for British and foreign companies.

Class of Business	Premiums Written				Premiums Earned	Claims Incurred
	Canadian Companies	British Companies	Foreign Companies	Total	All Companies	All Companies
	\$	\$	\$	\$	\$	\$
Accident—						
Personal.....	1,822,602	2,182,549	7,027,907	11,033,058	10,648,724	5,092,165
Public liability.....	7,508,193	7,815,772	6,299,143	21,623,113	19,985,705	12,107,295
Employers liability.....	1,714,881	2,440,282	1,051,079	5,206,242	4,830,774	2,339,336
Combined accident and sickness.....	57,713,202	1,896,591	78,584,709	138,194,502	137,163,964	108,107,148
Aircraft.....	88,755	1,736,778	693,589	2,519,122	2,234,396	2,418,934
Automobile.....	92,969,026	55,403,934	71,303,469	219,676,429	208,499,731	148,894,989
Boiler—						
Boiler.....	2,051,744	564,745	939,125	3,555,614	3,316,051	593,697
Machinery.....	898,085	648,306	954,825	2,501,216	2,167,209	1,200,107
Credit.....	374,644	—	608,573	983,217	705,042	248,082
Earthquake.....	8,639	27,350	28,832	64,821	43,808	882
Explosion.....	135	697	3,605	4,437	6,446	1,438
Falling aircraft.....	—	—	40	40	40	—
Forgery.....	38,353	17,610	14,554	70,517	63,539	20,558
Guarantee—						
Fidelity.....	1,522,871	810,681	1,288,744	3,622,296	3,173,028	1,399,285
Surety.....	2,562,424	1,086,409	1,935,789	5,584,622	5,403,793	1,167,501
Hail.....	290,416	324,223	3,154,712	3,769,351	3,768,199	4,588,802
Inland transportation.....	989,634	1,614,774	3,264,742	5,869,150	5,322,923	3,247,586
Livestock.....	7,227	34,469	43,235	84,931	79,937	24,784
Personal property.....	6,253,030	12,230,812	13,679,542	32,163,384	31,199,712	24,561,223
Plate glass.....	819,906	775,206	519,323	2,114,525	1,917,746	1,224,635
Real property.....	126,284	1,063,577	332,897	1,522,758	1,688,847	2,716,175
Sickness.....	475,111	756,503	7,565,081	8,796,645	8,744,884	3,919,495
Sprinkler leakage.....	95	485	945	1,525	1,241	1,852
Theft.....	1,792,971	1,752,846	1,935,355	5,481,172	5,233,648	3,866,131
Title.....	—	—	1,063	1,063	957	—
Water damage.....	—	—	10,697	10,697	14,378	10,908
Weather.....	76	—	19,191	19,267	19,277	6,182
Windstorm.....	137,077	1,764	23,666	162,507	196,348	105,215
Totals.....	180,165,386	93,186,453	201,284,382	474,636,221	456,931,217	327,864,405

A certificate of registration is not required for marine insurance and therefore operating results in Canada are not included in the above figures. They are as follows for the ten-year period 1948-57:—

Year	Premiums Written	Claims Incurred	Underwriting Gain
	\$	\$	\$
1948.....	7,986,658	3,468,045	2,466,397
1949.....	7,715,671	4,327,555	1,342,088
1950.....	7,592,558	3,098,086	2,394,336
1951.....	8,908,639	4,670,972	1,716,201
1952.....	9,201,477	5,627,211	1,130,828
1953.....	9,429,278	5,413,073	1,192,584
1954.....	9,287,806	4,952,694	1,525,376
1955.....	10,061,418	6,068,437	782,632
1956.....	10,828,472	7,640,860	—362,076
1957.....	11,619,605	8,790,136	—1,073,409

Subsection 4.—Finances of Companies Transacting Fire and Casualty Insurance under Federal Registration

The financial statistics of Tables 22 to 25 relate to fire and casualty insurance transacted by companies under federal registration. The figures for British and foreign companies apply to their assets, liabilities and operations in Canada only. On the other hand, the assets and liabilities, revenue and expenditure of Canadian companies are given for total business, including business arising out of Canada as well as in Canada.

22.—Total Assets for Fire and Casualty Insurance of Canadian Companies under Federal Registration and Assets in Canada for Fire and Casualty Insurance of British and Foreign Companies under Federal Registration, 1955-57.

Assets	1955	1956	1957
	\$	\$	\$
Canadian Companies¹ (In and Out of Canada)			
Real estate.....	7,422,687	9,007,637	9,572,647
Mortgage loans and sale agreements.....	6,568,495	5,816,600	6,036,592
Bonds, debentures and stocks.....	279,549,310	297,017,474	309,906,038
Agents' balances and premiums outstanding.....	28,398,778	30,128,617	33,200,389
Cash.....	27,050,820	26,272,990	26,075,954
Interest, dividends, and rents, due and accrued.....	2,267,675	2,466,014	2,722,333
Other assets.....	20,360,076	23,377,762	25,542,145
Totals, Canadian Companies.....	371,617,841	394,087,094	413,056,098
British Companies (In Canada)			
Real estate.....	2,657,692	1,264,411	3,379,370
Mortgage loans on real estate.....	847,124	859,776	1,304,004
Bonds, debentures and stocks.....	163,614,604	164,408,838	196,534,277
Agents' balances and premiums outstanding.....	19,848,581	22,107,838	24,229,451
Cash.....	14,515,929	11,420,337	11,301,072
Interest, dividends, and rents, due and accrued.....	812,512	873,913	1,138,576
Other assets in Canada.....	3,845,147	6,550,982	3,263,343
Totals, British Companies (In Canada).....	206,141,589	207,486,095	241,150,093
Foreign Companies (In Canada)			
Real estate.....	4,158,278	4,626,146	4,548,155
Mortgage loans on real estate.....	47,434	59,678	47,078
Bonds, debentures and stocks.....	233,810,248	240,259,386	286,551,071
Agents' balances and premiums outstanding.....	22,805,443	25,095,764	26,307,463
Cash.....	26,333,042	22,689,599	21,334,417
Interest, dividends, and rents, due and accrued.....	1,783,223	1,995,143	2,428,908
Other assets in Canada.....	3,095,082	3,843,074	4,741,842
Totals, Foreign Companies (In Canada).....	292,032,750	298,568,790	345,958,934

¹ Includes marine insurance.

23.—Total Liabilities for Fire and Casualty Insurance of Canadian Companies under Federal Registration and Liabilities in Canada for Fire and Casualty Insurance of British and Foreign Companies under Federal Registration, 1955-57.

Liabilities	1955	1956	1957
	\$	\$	\$
Canadian Companies¹ (In and Out of Canada)			
Reserve for unsettled claims.....	67,881,148	76,880,794	85,536,440
Reserve of unearned premiums.....	104,649,191	107,623,628	114,941,500
Other policy reserves.....	43,016,069	4,562,254	5,147,122
Sundry items.....	18,836,232	51,620,907	54,788,419
Investment, contingency or general reserve funds.....		16,845,457	18,069,048
Totals, Liabilities.....	234,382,640	257,533,040	278,482,529
Capital stock paid.....	28,379,882	30,946,431	34,582,255
Amounts transferred from other funds.....	1,589,642	2,269,642	2,414,642
Surplus.....	107,265,677	103,337,981	97,576,672
	371,617,841	394,087,094	413,056,098

¹ Includes marine insurance.

23.—Total Liabilities for Fire and Casualty Insurance of Canadian Companies under Federal Registration and Liabilities in Canada for Fire and Casualty Insurance of British and Foreign Companies under Federal Registration, 1955-57—concluded.

Liabilities	1955	1956	1957
	\$	\$	\$
British Companies (In Canada)			
Reserve for unsettled claims.....	43,103,914	47,719,646	60,859,862
Reserve of unearned premiums.....	76,966,226	82,877,500	89,546,191
Other policy reserves.....		1,053,890	1,594,920
Sundry items.....	10,732,379	13,213,434	14,600,691
Totals, Liabilities.....	130,802,519	144,864,470	166,601,664
Excess of assets over liabilities in Canada.....	75,339,070	62,621,625	74,548,429
Foreign Companies (In Canada)			
Reserve for unsettled claims.....	59,300,614	67,395,164	80,192,028
Reserve of unearned premiums.....	110,117,204	109,230,667	117,984,449
Other policy reserves.....		10,517,323	7,539,468
Sundry items.....	18,067,520	20,305,488	19,231,751
Totals, Liabilities.....	187,485,338	207,498,642	224,947,696
Excess of assets over liabilities in Canada.....	104,547,412	91,070,148	121,011,238

24.—Underwriting Account of Canadian Companies and Underwriting Account in Canada of British and Foreign Companies Transacting Fire and Casualty Insurance under Federal Registration, 1955-57.

Underwriting Account	1955	1956	1957
	\$	\$	\$
Canadian Companies (In and Out of Canada)			
Net Premiums Earned.....	206,896,155	224,402,465	251,590,709
Disbursements—			
Net claims incurred.....	120,381,986	142,456,543	169,907,301
Commission and brokerage.....	36,409,970	38,361,161	42,158,688
Taxes, excluding profit taxes.....	5,166,749	5,640,466	6,175,645
Other expenses.....	37,060,083	41,701,740	45,612,986
Totals, Disbursements.....	199,018,788	228,159,910	263,854,620
Underwriting Gain.....	7,877,367	—3,757,445	—12,263,911
British Companies (In Canada)			
Net Premiums Earned.....	121,391,552	130,783,091	145,539,389
Disbursements—			
Net claims incurred.....	67,852,656	81,330,253	108,950,551
Commission and brokerage.....	27,812,011	31,294,105	33,785,474
Taxes, excluding profit taxes.....	3,129,970	3,423,321	3,665,161
Other expenses.....	23,462,437	26,178,892	29,937,679
Totals, Disbursements.....	122,257,074	142,226,571	176,338,865
Underwriting Gain.....	—865,522	—11,443,480	—30,799,476

24.—Underwriting Account of Canadian Companies and Underwriting Account in Canada of British and Foreign Companies Transacting Fire and Casualty Insurance under Federal Registration, 1955-57—concluded.

Underwriting Account	1955	1956	1957
	\$	\$	\$
Foreign Companies (In Canada)			
Net Premiums Earned	201,852,525	224,293,178	248,883,937
Disbursements—			
Net claims incurred.....	121,483,538	150,163,172	181,018,193
Commission and brokerage.....	37,201,746	41,707,872	42,133,235
Taxes, excluding profit taxes.....	4,956,286	5,578,549	6,044,796
Other expenses.....	35,296,624	40,801,873	45,852,274
Totals, Disbursements	198,938,194	238,251,466	275,048,498
Underwriting Gain	2,914,331	-13,958,288	-26,164,561

25.—Profit and Loss Account of Canadian Companies and Gain or Loss and Other Income in Canada of British and Foreign Companies Transacting Fire and Casualty Insurance under Federal Registration, 1955-57.

Item	1955	1956	1957
	\$	\$	\$
Profit and Loss Account—Canadian Companies (In and Out of Canada)			
Underwriting Gain	7,877,367	-3,757,445	-12,263,911
<i>Add:</i> Interest, dividends and rents.....	10,321,667	11,482,471	12,622,980
Received from shareholders.....	2,366,080	5,440,267	4,947,628
Gain in market value of investments.....	—	-4,818,853	-3,180,625
Gain on sale of investments.....	—	1,238,881	1,429,949
Gains from other sources.....	5,870,503	3,097,877	2,219,271
<i>Deduct:</i> Investments written down.....	1	844,454	169,231
Dividends to policyholders.....	1,382,522	1,611,657	2,060,606
Income taxes.....	5,301,880	1,539,679	352,392
Losses from other sources.....	5,680,599	5,584,117	3,561,101
Dividends to shareholders.....	3,654,859	3,651,951	2,433,075
Balance, Net Gain	10,435,757	-548,660	-2,801,113
Gain or Loss and Other Income—British Companies (In Canada)			
Underwriting Gain	-865,522	-11,443,480	-30,799,476
<i>Deduct:</i> Income taxes.....	556,772	-10,814	-39,530
Net Gain or Loss	-1,422,294	-11,432,666	-30,759,946
Other Revenue—			
Interest, dividends and rents.....	3,048,752	3,938,838	5,261,709
Sundry income.....	756	91	42,915
Gain or Loss and Other Income—Foreign Companies (In Canada)			
Underwriting Gain	2,914,331	-13,958,288	-26,164,561
<i>Deduct:</i> Dividends to policyholders and others.....	4,455,425	3,912,471	3,638,315
Income taxes.....	3,169,682	535,749	-67,266
Losses from other sources.....	115,659	-23,100	—
Net Gain or Loss	-4,826,435	-18,383,408	-29,735,610
Other Revenue—			
Interest, dividends and rents.....	6,603,810	7,816,535	9,445,113
Sundry income.....	122,695	77,711	100,312

¹ Included with losses from other sources.

Section 3.—Government Insurance

In addition to the insurance provided by private insurance companies, various types of government insurance schemes have been adopted in recent years by the federal and provincial governments.

Information on unemployment insurance, health insurance, veterans insurance, export credits insurance, etc., will be found in the appropriate Chapters on Labour, Health and Welfare, Foreign Trade, etc.

Provincial Insurance Schemes.*—Saskatchewan.—The Saskatchewan Government Insurance Office, a Crown corporation established by the Saskatchewan Government Insurance Act 1944, commenced business in May 1945; it deals in all lines of insurance other than sickness, life and hail.

It administers the Automobile Accident Insurance Act which provides compensation for the victims of automobile accidents as well as property damage in such accidents. The Act provides Saskatchewan residents with personal injury coverage without regard to liability and, in addition, all Saskatchewan motorists enjoy public liability and comprehensive protection including fire, theft and collision coverages.

The Office, under contract with the Saskatchewan Department of Natural Resources, offers insurance to farmers covering damage to unharvested crops by certain wildlife, such as ducks, geese, sandhill cranes, deer, elk, bear and antelope.

Information regarding the operation of the Saskatchewan Government Insurance Office or the Automobile Accident Insurance Act may be obtained from the Promotion and Advertising Department of the Saskatchewan Government Insurance Office, 11th and Cornwall Streets, Regina, Sask.

Alberta.—Provincial Government insurance in Alberta, coming within the purview of the Alberta Insurance Act, relates firstly to the Alberta General Insurance Company, in which the entire business of the fire branch of the Alberta Government Insurance Office was vested by the Legislature on Mar. 31, 1948, and secondly to the Life Insurance Company of Alberta, which was constituted on the same date to take over the life branch of the Alberta Government Insurance Office. Each company is administered by a separate board of directors. The Lieutenant-Governor in Council appoints the members to the respective boards but the charter of the Life Insurance Company of Alberta provides for the election of two policyholder directors. While both companies are Crown corporations, they are not entitled to the usual immunities of the Crown, since they may sue and be sued in any court of competent jurisdiction.

A variety of agencies in Alberta offer forms of prepaid protection corresponding to insurance but the nature of the enabling legislation governing these plans emphasizes the fact that they do not constitute insurance. Because such exemptions are specifically provided by the insurance laws of the province, reference to these plans is necessary only to make it clear that they do not come within the scope of the Alberta Insurance Act.

It should be noted that the Alberta Hail Insurance Act is administered by the Provincial Treasurer but none of the provisions of the Alberta Insurance Act apply to the Alberta Hail Insurance Board.

Information on insurance matters additional to that set out above may be obtained from the Superintendent of Insurance, Department of the Provincial Secretary, Edmonton, Alta.

* Revised by the respective provincial governments.

CHAPTER XXVI.—DEFENCE OF CANADA

CONSPECTUS

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NOTE.—The interpretation of the symbols used in the tables throughout the Year Book will be found facing p. 1 of this volume.

PART I.—THE ARMED SERVICES AND DEFENCE RESEARCH*

Section 1.—The Department of National Defence

The Minister of National Defence exercises control over and management of the Canadian Armed Forces, the Defence Research Board and other matters relating to national defence. Under his direction the three Chiefs of Staff are responsible for the control and administration of their respective Services and the Chairman of the Defence Research Board is responsible for research and development in defence matters. The Chairman of the Chiefs of Staff Committee, appointed in 1951, is responsible to the Minister for ensuring that all matters of joint defence and defence policy, in its widest sense, are carefully examined and co-ordinated before decisions are made.

The civilian administration of the Department is organized under the Deputy Minister and is constituted on a functional basis. The Deputy Minister maintains a continuing review and control over the financial aspects of operational policy, logistics, and personnel and administration. The Deputy Minister is assisted by an Associate Deputy Minister and four Assistant Deputy Ministers each of whom administers a division of the Deputy Minister's branch responsible for matters of: administration and personnel; construction, engineering and properties; finance; and supply. Also responsible to the Deputy Minister are: the Controller General of Inspection Services, the Judge Advocate General, the Chief Secretary and, where staff matters are concerned, the Director of Public Relations.

A number of committees meet at regular intervals to consider and advise on joint issues. These include:—

- (1) **Defence Council.**—Composed of the Minister of National Defence (Chairman), the Deputy Minister, the Chairman of the Chiefs of Staff Committee, the three Chiefs of Staff, the Chairman of the Defence Research Board and the Associate Deputy Minister; its purpose is to advise the Minister on administrative and other matters.
- (2) **Chiefs of Staff Committee.**—Composed of the Chairman of the Chiefs of Staff, the three Chiefs of Staff and the Chairman of the Defence Research Board. The Deputy Minister of National Defence attends regularly and the Secretary to the Cabinet and the Under Secretary of State for External Affairs attend when required. The purpose of the Committee is to maintain a continuous review of all operational problems; sub-committees consider various aspects of these problems and report to the parent committee.

* Prepared by the Office of the Deputy Minister, Department of National Defence, Ottawa.

- (3) **Personnel Members Committee.**—Composed of the Chief of Naval Personnel, the Adjutant-General, the Air Member for Personnel, the Assistant Deputy Minister (Administration and Personnel), the Assistant Deputy Minister (Finance) and a representative of the Chairman of the Defence Research Board. The purpose of the Committee is to examine personnel problems of the three Services with the general aim of achieving uniform personnel policies; sub-committees consider various aspects of personnel problems and report to the parent committee.
- (4) **Principal Supply Officers Committee.**—Composed of the Chief of Naval Technical Services, the Quartermaster-General, the Air Member for Technical Services, the Assistant Deputy Minister (Requirements) and a representative of the Chairman of the Defence Research Board. The purpose of the Committee is to consider logistical problems; sub-committees consider various aspects of these problems and report to the parent committee.

Defence Supply Committee.—An interdepartmental committee composed of the Deputy Ministers of National Defence and of Defence Production and the senior military and civilian supply officers of the two Departments has been established to review inter-departmental procurement and production problems and consider various policy aspects of the procurement of ammunition, armament, aircraft, etc. Eleven panels consider various aspects of these problems and report to the parent committee.

Canada-United States Committee on Joint Defence.—Composed of: for Canada, the Secretary of State for External Affairs, the Minister of National Defence and the Minister of Finance; for the United States, the Secretary of State, the Secretary of Defense and the Secretary of the Treasury; together with such appropriate Cabinet Members as either Government may designate from time to time as the need arises.

The function of this Committee is to consult periodically on any matters affecting the joint defence of Canada and the United States; to exchange information and views at the Ministerial level on problems that may arise, with a view to strengthening further the close and intimate co-operation between the two Governments on joint defence matters; and to report to the representative Governments on such discussions in order that consideration may be given to measures deemed appropriate and necessary to improve defence co-operation. The Committee meets, alternately in Ottawa and Washington, at least once a year as may be considered necessary by the two Governments. The Chairman is a Canadian member when the meetings are held in Canada and a United States member when the meetings are held in the United States.

Liaison Abroad.—The Chairman of the Chiefs of Staff, who is the Canadian military representative in the North Atlantic Treaty Organization, is responsible for co-ordinating all NATO military matters and acts as a military adviser to Canadian NATO delegations. For purposes of liaison and the furtherance of international co-operation in defence, Canada also maintains: (1) the Canadian Joint Staff (London) representing the three Services and the Defence Research Board in the United Kingdom, the Chairman of which is the principal military adviser to the Canadian High Commissioner in London, the principal military adviser to the Permanent Canadian Delegate to the NATO Council and the Canadian National Military Representative to SHAPE; (2) the Canadian Joint Staff (Washington) representing the three Services and the Defence Research Board in the United States, the Chairman of which is the principal military adviser to the Canadian Ambassador in Washington, the Canadian National Liaison Representative to SACLANF Headquarters and the Canadian member of the NATO Military Committee in Permanent Session; and (3) Service Attachés in various countries throughout the world. In addition, a number of defence matters of concern to both Canada and the United States are considered by the Permanent Joint Board on Defence.

Mutual Aid.—Canada's contributions to NATO are outlined on pp. 137-138.

Rates of Pay and Allowances.—The entire pay structure for comparable ranks in the different Services is on a uniform basis. Monthly rates for pay and allowances are given in Table 1.

1.—Monthly Rates of Pay and Allowances for the Canadian Armed Forces, Effective May 1, 1957

Royal Canadian Navy	Canadian Army	Royal Canadian Air Force	Basic Pay	Pro- gressive Pay			Group Pay for Tradesmen and Specialists				Subsistence Allowance		Ration Allowance	Mar- riage Allowance	Separated Family's Allowance (personnel not in married quarters) with Children	
				Years in Rank			Group				Personnel not in Receipt of Marriage Allowance	Personnel in Receipt of Marriage Allowance			In Receipt of Sub- sistence Allowance	Not in Receipt of Sub- sistence Allowance
				3	6	9	1	2	3	4						
Ordinary Seamen (under 17 years)	Private recruit (under 17 years)	Aircraftman 2 (under 17 years)	\$ 52	—	—	—	—	—	—	—	61	—	\$ 30	—	\$ —	—
Ordinary Seamen (entry)	Private (recruit)	Aircraftman 2	104	—	—	—	12	30	54	72	61	91	30	30	61	91
Ordinary Seaman (trained)	Private (trained)	Aircraftman 1	110	—	—	—	12	30	54	72	61	91	30	30	61	91
Able Seaman	Private (higher rate)	Leading Aircraftman	127	20	12	—	12	30	54	72	61	91	30	30	61	91
—	Lance-Corporal	—	164	—	—	—	12	30	54	72	61	91	30	30	61	91
Leading Seaman	Corporal	Corporal	170	3	3	3	12	30	54	72	61	91	30	30	61	91
Petty Officer 2	Sergeant	Sergeant	194	5	5	5	12	30	54	72	72	91	30	30	72	91
Petty Officer 1	Staff Sergeant	Flight Sergeant	217	5	5	5	12	30	54	72	81	91	30	30	81	91
Chief Petty Officer 2	Warrant Officer 2	Warrant Officer 2	251	5	5	5	12	30	54	72	81	91	30	30	81	91
Chief Petty Officer 1	Warrant Officer 1	Warrant Officer 1	280	5	5	5	12	30	54	72	92	102	30	30	92	102

1.—Monthly Rates of Pay and Allowances for the Canadian Armed Forces, Effective May 1, 1957—concluded

Royal Canadian Navy	Canadian Army	Royal Canadian Air Force	Basic Pay	Pro-gressive Pay							Group Pay for Tradesmen and Specialists							Subsistence Allowance		Ration Allowance	Mar-riage Allowance	Separated Family's Allowance (personnel not in married quarters) with Children							
				Years in Rank							Group							Personnel not in Receipt of Marriage Allowance	Personnel in Receipt of Marriage Allowance			In Receipt of Sub-sistence Allowance	Not in Receipt of Sub-sistence Allowance						
				3				6			9		1				2							3		4			
																											\$	\$	
ROTP Cadet	ROTP Cadet	ROTP Cadet	\$ 63	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	65	—	30	—	—	—	\$	\$			
Midshipman	—	—	145	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	61	91	30	40	61	91	61	91	—		
Acting Sub-Lieutenant	Second Lieutenant	Pilot Officer	210	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	65	91	30	40	65	91	65	91	91		
Sub-Lieutenant	Lieutenant	Flying Officer	235	35	15	—	—	—	—	—	—	—	—	—	—	—	—	—	89	110	30	40	89	110	89	110	110		
Commissioned Officer	Officer commissioned from S/Sgt or above	Officer commissioned from F/Sgt or above	353	20	20	20	—	—	—	—	—	—	—	—	—	—	—	—	65-94 ¹	91-110 ¹	30	40	65-94 ¹	91-110 ¹	65-94 ¹	91-110 ¹	91-110 ¹		
Lieutenant	Captain	Flight Lieutenant	355	30	30	30	—	—	—	—	—	—	—	—	—	—	—	—	94	110	30	40	94	110	94	110	110		
Lieutenant-Commander	Major	Squadron Leader	455	30	30	30	—	—	—	—	—	—	—	—	—	—	—	—	113	113	30	40	113	113	113	113	113		
Commander	Lieutenant-Colonel	Wing Commander	555	35	35	35	—	—	—	—	—	—	—	—	—	—	—	—	126	126	30	40	126	126	126	126	126		
Captain	Colonel	Group Captain	730	35	35	—	—	—	—	—	—	—	—	—	—	—	—	—	139	139	30	40	139	139	139	139	139		
Commodore	Brigadier	Air Commodore	977	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	153	153	30	40	153	153	153	153	153		
Rear-Admiral	Major-General	Air Vice-Marshal	1,161	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	165	165	30	40	165	165	165	165	165		

¹ Depending on rank on promotion.

The allowances shown in Table 1 are explained briefly as follows.

Subsistence Allowance.—This allowance is granted whenever rations and quarters are not provided. A married man living with his family uses his subsistence allowance for their maintenance as well as his own.

Ration Allowance.—A ration allowance is granted when quarters are available but rations are not provided. It is not payable concurrently with subsistence allowance.

Marriage Allowance.—The amount of this allowance is \$30 a month for men and \$40 a month for officers, the latter subject to a reduction of \$10 a month where permanent married quarters are occupied or \$2.50 a month where temporary married quarters are occupied. All ranks may draw this allowance upon marriage provided the initial training period has been completed and the age of 21 years has been attained by men and 23 years by officers.

Separated Family's Allowance.—An officer or man in receipt of marriage allowance, while separated from his dependants for any of various reasons (*i.e.*, movement of dependants prohibited, illness of dependants, lack of suitable accommodation), on being moved other than temporarily may be entitled to separated family's allowance at a rate and for a period depending on circumstances (*i.e.*, rank, reason for separation, whether or not he has children, whether or not his family is accommodated in married quarters, whether or not he is provided with quarters and rations). The rates listed are the maximum.

In addition to the above, *Foreign Allowances* are granted to officers and men posted for duty to a country outside Canada to compensate for additional living expenses incurred; these vary with rank, appointment and location. *Northern Allowances* are granted to officers and men serving in Northern Canada at rates varying from \$31.67 to \$125 a month, depending upon circumstances. *Outfit Allowances and Clothing Credits* are as follows: Officers receive a single payment of \$450 on appointment and Warrant Officers Class I, \$270; men receive a free issue of clothing when they join and thereafter a monthly clothing credit or allowance of \$7, Navy Petty Officer 1st class and above \$8, and women \$8. An *Aircrew Allowance* of \$75 a month is paid to an officer or man undergoing flying training. For qualified aircrew this allowance may be increased to \$150, depending on rank, if filling an appointment requiring active and continuous flying duties and to \$100, depending on rank, for maintaining proficiency. *Submarine Allowance* is granted an officer or man undergoing submarine training or filling an appointment in a submarine; the allowance varies from \$65 to \$115 a month depending on rank. An officer or man actively engaged or undergoing training as a parachutist or on flying or submarine duties and not entitled to aircrew allowance or submarine allowance is paid a *Risk Allowance* at the rate of \$30 a month.

Subsection 1.—The Royal Canadian Navy

Role and Organization.—The primary role of the Royal Canadian Navy is anti-submarine warfare in all its aspects. Because of the prospect of long-range submarines capable of launching nuclear missiles hundreds of miles off-shore against coastal and inland targets, the RCN and the RCAF have placed primary emphasis on the development of forward operational systems and new techniques for locating and dealing with hostile submarines far out at sea.

The Royal Canadian Navy comes under the central authority of the Chief of the Naval Staff at Naval Headquarters in Ottawa. The Flag Officer, Atlantic Coast, at Halifax, N.S., and the Flag Officer, Pacific Coast, at Esquimalt, B.C., exercise operational and administrative command of ships and establishments within the Atlantic and Pacific Coast Commands. The Flag Officers in the Atlantic and Pacific Commands also hold the additional appointments of Maritime Commander Atlantic and Maritime Commander Pacific, respectively. As such, each is responsible for anti-submarine operations involving RCN and RCAF forces in his Command. The Naval Comptroller organization was established in 1956 to assist in the effective control of the use of manpower, material and

financial resources of the Navy. The recruiting and training of officers and men of the Royal Canadian Navy (Reserve) is conducted mainly through 21 Naval Divisions across Canada under the over-all command of the Commanding Officer, Naval Divisions, with headquarters at Hamilton, Ont. There are naval missions in London, Eng., and Washington, U.S.A., to maintain liaison with the Royal Navy and the United States Navy. As a result of Canada's NATO commitments (see pp. 136-138), officers of the Royal Canadian Navy serve on the staffs of: the Supreme Allied Commander, Atlantic, at Norfolk, Va., in the United States; the Commander-in-Chief, Eastern Atlantic Area, at Northwood in the United Kingdom; and the Commander-in-Chief, Western Atlantic Area, at Norfolk, Va. The Flag Officer, Atlantic Coast, holds the appointment of Commander, Canadian Atlantic Sub-Area.

The strength of the RCN at Mar. 31, 1959, was 20,478 officers and men in the Regular Force and 3,331 in the Reserve Force.

Operations at Sea, 1958-59.—At the end of 1958 the Royal Canadian Navy had 47 warships in commission, two Royal Navy submarines under its operational control and a further six warships under refit. This compared with 45 ships in commission and five in refit at the end of 1957. During 1958 the first two of the RCN's new anti-submarine destroyer escorts of the Restigouche class joined the fleet—HMCS *Restigouche*, the prototype, in June and HMCS *St. Croix* in October. Early in 1959 two others, HMCS *Gatineau* and HMCS *Kootenay*, were commissioned and three more were scheduled for service by the end of the year. This class of destroyer escort is developed from the St. Laurent class and incorporates advances in armament and submarine detection capabilities. HMCS *New Waterford*, the last of 21 anti-submarine frigates to be modernized, also joined the fleet in 1958.

Early in 1959 transfer of a number of destroyer escorts was effected between the Atlantic and Pacific Commands. The seven St. Laurent class ships—*Assiniboine*, *St. Laurent*, *Skeena*, *Fraser*, *Margaree*, *Ottawa* and *Saguenay*—now comprise the Second Canadian Escort Squadron based at Esquimalt, B.C. The four Restigouche class destroyer escorts in commission form the Fifth Canadian Escort Squadron based at Halifax, N.S., to be joined by the three new vessels of similar class later in the year.

To give further flexibility to the fleet, the mobile repair ship HMCS *Cape Scott* was commissioned at Halifax on Jan. 28, 1959. This ship is equipped with facilities to handle every type of repair work necessary for ships afloat, a decompression chamber for the divers who work from the ship, and a helicopter landing platform. A similar ship, HMCS *Cape Breton*, will join the fleet late in 1959. Both ships are designed to carry out non-major repair work for ships either at sea or at points remote from dockyards and shipyards.

During 1958 sea training activities ranged from single-ship work-ups to large-scale NATO exercises in which Canadian warships worked alongside those of France, Italy, the Netherlands, Portugal, the United Kingdom, the United States and Germany. Combined with this normal training were goodwill missions carried out by HMC ships in the course of cruises which took them to numerous ports on both coasts of Canada and the United States, to Japan, Hawaii, Hong Kong, South Vietnam, Okinawa, Fiji, Australia, New Zealand, Alaska, Central America, Mexico, the West Indies, France, Malta, Italy, the Azores, Gibraltar and the United Kingdom.

On the Great Lakes, a training squadron from the Atlantic Command provided sea training during the summer months for naval reservists from across Canada. More than 500 new-entry seamen of the RCN (Reserve) passed through the Great Lakes Training Centre at Hamilton, Ont., during the peak months of July and August.

Fourteen ships of the RCN, which had been transferred to Turkey under the program of Mutual Aid to member nations of NATO, sailed from Canada to their new home in May 1958. The ships included four Bay class minesweepers and ten Bangor class coastal escorts.

Early in the year, the RCN participated in a major exercise in anti-submarine warfare. *Operation Maple Royal* was a two-phase exercise in which ships and aircraft of the British Home Fleet combined with RCN ships and aircraft and RCAF aircraft in extensive manoeuvres in the Western Atlantic. Seventeen Canadian ships participated, made up of the aircraft carrier HMCS *Bonaventure* and units of the First, Third and Seventh Canadian Escort Squadrons and the First Canadian Minesweeping Squadron. Also participating were two Halifax-based Royal Navy submarines, four naval air squadrons, No. 404 Maritime Patrol Squadron, and RCAF and RAF *Shackleton* aircraft based temporarily at Greenwood, N.S. Later in the year, HMCS *Bonaventure* and the destroyer escorts *St. Laurent*, *Ottawa*, *Haida* and *Huron* participated in three major NATO exercises in Mediterranean and United Kingdom waters.

A new cadet-training squadron, the Fourth Canadian Escort Squadron, was formed on the Pacific Coast during 1958, to provide sea training for naval cadets from the Canadian Services Colleges, universities and HMCS *Venture*, the junior officer training establishment at Esquimalt, B.C. The Squadron took over duties formerly performed by the training cruiser HMCS *Ontario*, which was paid off on Oct. 15, 1958. The paying-off of the cruiser made available nearly 600 officers and men for anti-submarine ships of the fleet.

Training.—The major shore training establishments are HMCS *Stadacona* at Halifax, N.S.; HMCS *Naden* at Esquimalt, B.C.; HMCS *Cornwallis* near Digby, N.S.; and HMCS *Shearwater* near Dartmouth, N.S. Facilities at *Stadacona* and *Naden* include schools for general and specialized training, drafting depots, hospitals and accommodation facilities necessary for the maintenance of the ships based on each coast. New-entry or re-entry training, 15 weeks in duration, is conducted at the basic training establishment HMCS *Cornwallis*; during 1958, 2,662 men were enrolled. The new-entry training establishment HMCS *D'Iberville* at Quebec City gives all French-speaking personnel a basic knowledge of English and preliminary training in seamanship and professional naval subjects. After completing the course at *D'Iberville*, French-speaking new entries join classes at *Cornwallis*.

Trade and specialist training is conducted in various schools and training centres, including the naval supply school at HMCS *Hochelaga* in Montreal which was re-commissioned Oct. 1, 1955, and where 779 men completed training during 1958. Certain specialized training in new equipment is undertaken at the manufacturing centres by men who later become instructors.

A new Naval Technical School was opened at Esquimalt on Oct. 18, 1958, equipped to provide naval technical personnel with the best possible training from basic to advanced level. Engineering, air engineering, electrical, electronics, ordnance and shipwright courses are conducted in this new establishment. The ordnance, mechanical and electrical training establishments formerly in HMCS *Naden* and the training establishment for naval technical apprentices formerly conducted at Halifax in HMCS *Cape Breton* have been incorporated in the school.

Under the Regular Officer Training Plan, 15 graduate cadets were assigned to duty with the Navy during 1958 and another 19 went on to the final year at university in special courses. One graduate from the College Training Plan joined the fleet. At the end of the year there were 210 naval cadets in training under the Regular Officer Training Plan and 12 under the College Training Plan.

Under the *Venture* Plan, which was introduced in 1954 to train young men for seven-year, short-service appointments and which offers the opportunity of permanent commissions, 49 cadets were graduated in August 1958, promoted to midshipmen and posted for further training afloat or in shore establishments, 20 of them as naval aircrew by arrangement with the United States Navy. At the end of 1958 there were 134 cadets in training at HMCS *Venture* and at the end of March 1959 there were 41 midshipmen in training ashore or afloat.

The University Naval Training Division program, conducted to give instruction to university students, has as its object the provision of well-trained junior officers for the RCN and the RCN(R). The training period is three years and cadets are required to complete three winter-training periods, two summer periods and certain specified courses, after which suitable candidates receive promotion to Acting Sub-Lieutenant or Sub-Lieutenant, depending on academic status. During 1958, UNTD cadets were in attendance at 26 universities and colleges across Canada.

Royal Canadian Navy (Reserve).—Naval Divisions are established in the following centres:—

St. John's, Nfld., HMCS *Cabot*
 Charlottetown, P.E.I., HMCS *Queen Charlotte*
 Halifax, N.S., HMCS *Scotian*
 Saint John, N.B., HMCS *Brunswick*
 Quebec, Que., HMCS *Montcalm*
 Montreal, Que., HMCS *Donnacona*
 Toronto, Ont., HMCS *York*
 Ottawa, Ont., HMCS *Carleton*
 Kingston, Ont., HMCS *Cataraqui*
 Hamilton, Ont., HMCS *Star*
 Windsor, Ont., HMCS *Hunter*

London, Ont., HMCS *Prevost*
 Port Arthur, Ont., HMCS *Griffon*
 Winnipeg, Man., HMCS *Chippawa*
 Regina, Sask., HMCS *Queen*
 Saskatoon, Sask., HMCS *Unicorn*
 Calgary, Alta., HMCS *Tecumseh*
 Edmonton, Alta., HMCS *Nonsuch*
 Vancouver, B.C., HMCS *Discovery*
 Victoria, B.C., HMCS *Malahat*
 Prince Rupert, B.C., HMCS *Chatham*

Royal Canadian Navy (Reserve) Naval Divisions, commanded by Reserve officers, are responsible for specialized training in one or other of the various phases of naval activity, such as gunnery, torpedo and anti-submarine and seaward defence, in addition to training in engineering, supply, electronics, etc. Assistance in instruction is provided by RCN officers and men. The Great Lakes Training Centre at Hamilton conducts new-entry reserve training afloat in two ships of the Eleventh Canadian Escort Squadron, HMCS *Sault Ste. Marie* and HMCS *Portage*. A continuous aviation training program was implemented during 1958 in the five RCN (R) Squadrons: VC 920 (HMCS *York*, Toronto, Ont.); VC 921 (HMCS *Cataraqui*, Kingston, Ont.); VC 922 (HMCS *Malahat*, Victoria, B.C.); VC 923 (HMCS *Montcalm*, Quebec, Que.); and VC 924 (HMCS *Tecumseh*, Calgary, Alta.).

Royal Canadian Sea Cadets.—Royal Canadian Sea Cadets, sponsored by the Navy League of Canada and supervised by the RCN, comprised 154 authorized corps in 1958. These were divided into seven Sea Cadets areas, supervised by 16 naval officers, responsible to the Commanding Officer, Naval Divisions. Instruction is carried out by RCSC officers. During the summer of 1958, two RCSC training establishments—*Acadia* on the East Coast and *Quadra* on the West Coast—were activated, accommodating a total of 162 officers and 3,067 cadets for two-week training periods. In addition a total of 145 Sea Cadets underwent eight-week training courses at the two establishments. Sea training was provided for cadets throughout the year in various types of ships. The strength of the corps at the end of 1958 was 1,110 Sea Cadet officers and 9,809 Sea Cadets.

New Construction and Modernization.—At the end of 1958, one Repeat Restigouche class destroyer escort was under construction, together with five Restigouche class destroyer escorts. Two of the latter were in service early in 1959 and the remainder were scheduled for completion by the end of that year. One auxiliary craft and one diving tender were also under construction at the end of 1958.

In naval aviation, 43 *CS2F-1 Tracker* twin-engined anti-submarine aircraft, made in Canada, had been delivered to the RCN by the end of 1958; the contract is for 100. Late in the year production was changed to a modified version which is scheduled to go into service in the summer of 1959. The modifications were made to further improve the anti-submarine capabilities of the aircraft.

The *F2H3 Banshee* twin-jet fighter procurement program was completed in 1958, bringing to 39 the number purchased from the United States Navy. An important development during the year was the fitting of air-to-air *Sidewinder* missiles to naval

Banshee aircraft, the first guided missiles to be put into operational service by Canada's Armed Forces. During the year, RCN anti-submarine helicopters were fitted to carry homing torpedoes. The homing torpedo is also carried in destroyer escorts and *Tracker* aircraft.

Subsection 2.—The Canadian Army

Organization.—Army Headquarters at Ottawa is organized into three separate Branches. The General Staff Branch deals with all matters affecting the fighting efficiency of the Army, the Adjutant-General Branch deals with all problems affecting the soldier as an individual and the Quartermaster-General Branch is responsible for supply. The senior appointment at Army Headquarters is the Chief of the General Staff who, through the Heads of the three Branches, directs all activities of the Canadian Army. For command and control, Canada is divided into Commands and Areas each with its own headquarters divided into the same three branches as Army Headquarters. Locations of these headquarters are as follows:—

<u>Command</u>	<u>Headquarters</u>	<u>Area and Headquarters</u>
Eastern Command.....	Halifax, N.S.....	(1) New Brunswick Area, Fredericton, N.B. (2) Newfoundland Area, St. John's, Nfld.
Quebec Command.....	Montreal, Que.....	(3) Eastern Quebec Area, Quebec, Que.
Central Command.....	Oakville, Ont.....	(4) Eastern Ontario Area, Kingston, Ont. (5) Central Ontario Area, Oakville, Ont. (6) Western Ontario Area, London, Ont.
Prairie Command.....	Winnipeg, Man.....	(7) Saskatchewan Area, Regina, Sask.
Western Command.....	Edmonton, Alta.....	(8) British Columbia Area, Vancouver, B.C.

The Canadian Army comprises the Canadian Army (Regular) and the Reserves. The Canadian Army (Regular) consists of four Infantry Brigade Groups and static units and installations for command and control. One of the Brigade Groups is in Europe with the NATO Force and is under command of the Supreme Allied Commander in Europe. The Reserves include the Canadian Army (Militia), the Regular Reserve, the Supplementary Reserve, the Canadian Officers' Training Corps, the Cadet Services of Canada and the Reserve Militia. Additional to but not an integral part of the Canadian Army are the Services Colleges (*see* p. 1168), officially authorized cadet corps, rifle associations and clubs.

The strength of the Canadian Army (Regular), at Mar. 31, 1959, was 48,307 officers and men and the strength of the Canadian Army (Militia) was 40,971.

Operations in 1958.—In fulfilment of its military obligation under the North Atlantic Treaty, Canada has continued to provide ground forces for the defence of Western Europe. The 4th Canadian Infantry Brigade Group, which consists of the 1st Regiment RCHA, the Royal Canadian Dragoons, the 2nd Battalion, the Canadian Guards, the 3rd Battalion, the Royal 22nd Regiment and the 2nd Battalion, the Queen's Own Rifles of Canada, has been stationed in Germany since October 1957. The Headquarters of the Brigade Group is at Soest. Married quarters for officers and men number 1,600 and are located in the vicinity of Soest, Werl, Hemer and Iserlohn.

As a result of Canadian membership in the International Supervisory Commissions of Vietnam and Cambodia, the Canadian Army continued to provide 65 officers and men for truce supervisory duty in Indo-China. Following a political settlement and an election in Laos, the military component of the Canadian Delegation, Laos, was dissolved in May 1958.

In June 1958, at the request of the United Nations, Canada was among the first nations to send observers to Lebanon. This observer group, known as UNOGIL, began to arrive in Lebanon in mid-June. By September the total Canadian commitment was 71 officers and men. On Nov. 15, the United Nations decided that the observer group could be withdrawn from Lebanon and consequently all military personnel were returned to Canada by Jan. 1, 1959.

Since 1956, the Canadian Army has made a major contribution to the United Nations Emergency Forces in the Middle East. The strength of the Canadian contingent is approximately 900 officers and men. Its task is to patrol a sector of the Egypt-Israel Armistice Demarcation Line and to provide communications, repairs and maintenance, and catering services to the International Force. In other locations, such as Kashmir, Pakistan and Korea, Army officers are employed by the United Nations on various armistice commissions as observers in a supervisory capacity. At the end of 1958, 27 officers were employed on such duties.

Canada, as a member of the United Nations, may be called on to provide, at short notice, military forces for service under or in support of the United Nations. An infantry battalion has been specially trained and equipped to undertake operations of this nature. During 1958, this battalion took part, with the RCAF, in a successful exercise designed to practice its movement to any part of the world. Selected infantry and supporting units, with RCAF participation, carried out parachute and air-transported training exercises to maintain their capability of dealing effectively with possible small invasions of the Canadian Arctic by an aggressor.

Equipment.—The Canadian Army Equipment Development Program continues to concentrate on the fields which are particularly suited to Canadian capabilities and in which there are special Canadian needs. Emphasis has been given to the problems of living and operating in the North under the most adverse conditions. The development and evaluation of defence equipment for atomic, biological and chemical warfare continues in close co-operation with the RCN, RCAF and Defence Research Board. The standardization program in the United States, the United Kingdom and Canada and within NATO continues to promote the exchange of knowledge to the mutual advantage of the armies concerned. Additional agreements were reached affecting procedures and equipment. The Canadian Army has been completely equipped with the FN rifle. The FN (C2) has been introduced into the Canadian Army (Reserve) and will replace the LMG (Bren) in 1959. Both these weapons fire the NATO 7.62mm calibre round.

Training.—The policy of training is determined at Army Headquarters. General Officers Commanding Commands implement the training policies within their Commands, except for those conducted at Army and corps schools that are under the direct supervision of Army Headquarters. During 1958 the basic training of 5,641 recruits and the corps training of officers and men of the Canadian Army (Regular) was carried out at regimental depots, units and corps schools and 9,783 personnel attended courses at the schools of instruction. Promotion qualification examinations consisting of written and practical tests were held to qualify Regular and Militia officers for the ranks of Captain and Major; 47 candidates passed qualification examinations for selection to attend the Canadian Army Staff College and 19 passed the entrance examination for the Royal Military College of Science. A training program was conducted during the winter months for all Regular officers to further their professional knowledge. Militia Staff Course examinations were conducted for Militia officers to qualify Captains and Majors for

command and staff appointments. Qualifying courses for Junior NCO's were conducted under General Officers Commanding Commands. Senior NCO courses were conducted at corps schools in accordance with training standards.

French- and English-language training, which is available to all ranks of the Canadian Army, was conducted by Commands and AHQ. The Canadian Army Training School conducted six-month French-language courses for English-speaking officers and NCO instructors. A number of French-speaking potential NCO's have also received English-language training.

Officers from the RCN and RCAF as well as officers from the United States, the United Kingdom, Australia, Pakistan, India, Germany, Belgium, Turkey, Norway, France and Italy attended courses at Canadian Army schools of instruction.

Trade and specialty training is given at corps schools and units. Where feasible, the facilities of civilian schools are used to supplement training at Army establishments. Training is conducted in accordance with the appropriate training standard for each trade or specialty. When required by technical developments in the Army, trades are revised and new trades are introduced. Trades relating to aircraft maintenance and repair are being studied in keeping with the decision that the Army will use certain aircraft.

The apprentice training program inaugurated in January 1953 is designed to train selected young men as soldier tradesmen and to provide them with the requisite academic background to enable them to advance to senior non-commissioned ranks in the Army. A high entry standard has been set to ensure that the prospective soldier apprentice will be capable of absorbing trade and academic training and also of developing the leadership qualities essential in senior NCO's. During 1958 an additional 460 apprentices were enrolled and 40 civilian teachers were employed to provide academic instruction for about 800 apprentice soldiers. Academic credits are obtained from the educational authorities of the province where the training is conducted. Apprentices receive trades training as clerks, cooks, carpenters, electricians, wireless operators, radar operators, radio mechanics, storemen, gun mechanics, vehicle mechanics and armourers. A balanced training program is designed to stimulate the interest of the apprentice. Military, trade, academic and recreational training are integrated. Separate messing, canteen and sleeping arrangements are provided for apprentices.

The training of the Defence of Canada Force continued throughout 1958. Airborne continuation training was carried out by each unit in conjunction with unit exercises. Defence of Canada Force units carried out exercises during the winter under cold weather conditions. Parachute and air supply courses were conducted at the Canadian Joint Training Centre at Rivers, Man., and courses in Arctic training at Fort Churchill, Man. Collective training for units in Canada was conducted during the summer months at Camp Gagetown, Camp Petawawa and Camp Wainwright. All arms training comprised sub-unit and unit training and culminated in exercises at the Brigade Group level.

The Reserves.—Funds were provided to permit an average of 45 days training for all ranks of the Militia during 1958, of which seven days was for summer training by attachment to Regular Army units, camps or headquarters. During the summer 12,800 all ranks were attached for summer training. The aim of training is to prepare the Militia for its role in the national survival program.

The Regular Officer Training Plan (ROTP).—The Regular Officer Training Plan is in effect at the three Canadian Services Colleges and at all Canadian universities and affiliated colleges that have contingents of the COTC. The purpose of the Plan is to train selected students for commissions in the Canadian Army (Regular). Students enrol in the Canadian Army (Regular) with a special rate of pay; tuition and essential fees are paid and grants are given for books and instruments needed for study. In the period Jan. 1, 1957 to Dec. 31, 1958, 213 of these sponsored students graduated and were commissioned in the Canadian Army (Regular). Training consists of military studies, drill and physical training during the academic year; the summer term is devoted to practical training at military establishments.

The Canadian Officers' Training Corps (COTC).—In addition to the Regular Officer Training Plan, units of the Canadian Officers' Training Corps are maintained at Canadian universities to produce primarily, from among university undergraduates, officers for the reserve components of the Army. University graduates who have been members of the Canadian Officers' Training Corps are also eligible for commissions in the Canadian Army (Regular). Members of the COTC undertake the same training as members of the ROTP. In the period July 1952 to July 1957, 388 officers who had trained with the COTC were awarded commissions in the Canadian Army (Regular).

Army Cadets.—The number of Royal Canadian Army Cadets training during 1957-58 was 67,493, enrolled in 541 cadet corps. Training was conducted by 1,465 Cadet Services of Canada officers and 797 civilian instructors assisted by Canadian Army Regular and Militia personnel. During the summer of 1958, 5,266 cadets spent seven weeks at summer camps located at Aldershot, N.S., Farnham, Que., Camp Borden, Ont., Ipperwash, Ont., Dundurn, Sask., and Vernon, B.C. During these summer camps cadets were qualified as either Cadet Leaders, Cadet Leader Instructors, Driver Mechanical Transport Group 1, or Infantry Signaller, Group 1. In addition, 524 cadets of the minimum age of 14 years attended two-week summer camps at Aldershot, N.S., and Clear Lake, Man. During these camps cadets were qualified as Junior Leaders (Cadet). The National Cadet Camp operated annually at Banff, Alta., is a camp attended by First Class or Master Cadets who are selected from cadet corps across Canada; in 1958, 229 such cadets attended. A total of 1,055 Cadet Services of Canada officers and civilian instructors attended summer camps throughout Canada in 1958; of this number 497 were undergoing training courses and 558 were employed on instructional duties.

Subsection 3.—The Royal Canadian Air Force

Organization.—Air Force Headquarters at Ottawa conducts the planning and policy administration and training of the Regular and Reserve Forces of the RCAF. Organization is divided into four categories—resource controls, personnel, logistics, and plans and operations. On Mar. 31, 1959, the major formations and their headquarters location were as follows:—

<i>Formation</i>	<i>Headquarters</i>
Air Defence Command.....	St. Hubert, Que.
5 Air Division.....	Vancouver, B.C.
1 Air Division.....	Metz, France
Air Transport Command.....	Lachine, Que.
Air Materiel Command.....	Rockcliffe, Ont.
Maritime Air Command.....	Halifax, N.S.
Training Command.....	Trenton, Ont.
14 Training Group.....	Winnipeg, Man.

The organization included 29 flying squadrons of the RCAF Regular and 11 flying squadrons of the Reserve. The Reserve squadrons performed an emergency and rescue role. Nine of the Regular squadrons contributed to the air defence of the Canada-U.S. Region; 12 squadrons were assigned to the air defence of Western Europe; four squadrons were required for RCAF transport operations at home and abroad; three maritime squadrons operated in conjunction with other forces for the defence of Canada's East and West Coasts; and one reconnaissance squadron carried out aerial photography and reconnaissance in the Canadian North.

The strength of the Royal Canadian Air Force at Mar. 31, 1959, was 51,627 officers and men in the Regular Force and 4,114 in the Auxiliary Air Force.

Operations in 1958.—The RCAF continued to fill its established air defence commitments. Emphasis was placed on improving efficiency in integrated operations with USAF air defence forces and increasing the effectiveness of Canadian air defence squadrons. The Canadian air defence force remained at nine *CF100 Mk V* all-weather squadrons.

No. 1 Air Division in Europe, comprised of eight *F86*, four *CF100 Mk IVB* and one *AC&W* squadrons, continued to fill Canada's commitment to the NATO air defence fighter force.

Air Defence Command continued its planned build-up and had under operation three radar systems—the Distant Early Warning Line (DEW), the Mid-Canada Line (MCL), and the Pinetree Line—as an integral part of North American Air Defence Command (NORAD). The RCAF Ground Observer Corps, which acts as a supplement to the radar system, remained at a strength of approximately 54,000 civilian volunteers and 5,000 observation posts located throughout the country.

The program of re-equipping Maritime Air Command squadrons with improved aircraft and equipment continued throughout the year. On the East Coast, one squadron completed conversion to the *Argus*, the largest and most modern anti-submarine aircraft in operational use, and conversion of the second squadron was under way. On the West Coast, the last of the *Lancasters* was retired and the squadron re-equipped with *Neptune* aircraft. The aircrews of Maritime Air Command, in co-operation with the RCN, participated in both national and NATO exercises and increased emphasis was placed on regular daily patrols and surveillance over the waters on both coasts.

Air Transport Command continued to provide support to the Air Division and the Army Brigade in Europe using its *North Star* aircraft. *Fairchild C119* aircraft of this Command were engaged in cargo and personnel carrier operations in Canada and in para-troop training for the Canadian Army. Both *North Star* and *C119* aircraft were used for operations in support of the Arctic weather stations.

In 1958, ice reconnaissance in support of Department of Transport ships supplying DEW Line stations was undertaken by 408 Squadron of Air Transport Command. An ice reconnaissance detachment was established at Frobisher Bay and daily reconnaissance flights were carried out from July 15 to Nov. 1. In addition, 408 Squadron carried out routine reconnaissance missions of the Arctic Archipelago.

During the year, the RCAF continued to provide search and rescue services in Canadian areas of responsibility. Fifty-seven major search operations were conducted of which 37 were for civil aircraft and nine were for military aircraft. Marine craft and miscellaneous cases accounted for the remainder. There were 163 mercy flights conducted during the year. The total flying time for all search and rescue operations was 8,030 hours.

Training and Equipment.—During the year ended Mar. 31, 1959, NATO aircrew training in Canada continued to be active; by the end of 1958, 5,672 aircrew had been graduated under this plan since its inception in 1951. In addition, the RCAF was engaged in training aircrew for its own requirements. Basic trades courses for non-flying list officers produced 402 graduates and basic trades schools graduated 6,112 tradesmen during 1958-59.

Flight cadets entering the service received officer development training and primary flying training at Centralia, Ont. Basic flying training was conducted at flying training schools located at Moose Jaw, Sask., and Penhold, Alta. Advanced flying training on twin-engine aircraft was given at Saskatoon, Sask., and advanced flying training on jet aircraft was conducted at Portage la Prairie, Gimli, and MacDonald, Man. Flying instructor training was given at Trenton, Ont., and instrument rating courses were conducted at Saskatoon, Sask. Observers received their basic and advanced training at Winnipeg, Man.

Formal trade courses for newly commissioned non-flying list officers were conducted at RCAF schools in aeronautical engineering, armament, supply, telecommunications and flying control. Aircraft system trainers were used extensively to support technician and aircrew training programs at field technical training units and operational training units. Trade advancement training programs continued at all units, both regular and auxiliary, to help tradesmen advance into the qualified trade group levels. Semi-annual trade examinations were written under the direction of a Central Examination Board. Language training programs were conducted where necessary.

The aircraft procurement program during 1958 and 1959 is dealt with under Defence Production at pp. 1170-1175.

RCAF Reserve.—The active sub-components of the RCAF reserves are designated as the Auxiliary and the Primary Reserve. There are eleven Auxiliary flying squadrons which, during the year, were re-equipped as transport squadrons. These squadrons are maintained to train a reserve of transport aircrew and operate in an emergency transport role. In addition, the RCAF maintains 17 Auxiliary medical units, 17 aircraft control and warning squadrons and eight technical training units. The Primary Reserve is concerned mainly with the training of members of the University Reserve Training Plan (URTP), the Mobilization Assignment Training Plan (MATP) and the Reserve Tradesman Training Plan (RTTP).

During the year ended Mar. 31, 1959, officer development courses were conducted for some 300 first-year URTP university undergraduates at Reserve Officer School, St. Johns, Que. Following this initial training some non-flying list cadets continued with basic courses in aeronautical engineering, telecommunications, armament, supply and accounts while others in the medical, air services and personnel lists were employed at Regular Force units on contact training. Second and third year flight cadets continued with their formal or contact training.

Approximately 450 Reserve officers and senior NCO's received contact training for mobilization assignments during 1958. The Reserve Tradesman Training Plan was also continued and approximately 1,239 recruits, both high school and air cadets, completed training.

Royal Canadian Air Cadets.—Air cadet activities in Canada are sponsored and administered by the Air Cadet League of Canada. The League is a voluntary civilian organization formed in 1940 to provide preliminary aviation training for potential members of the Royal Canadian Air Force. The RCAF works jointly with the League and provides training personnel, syllabi and equipment.

During World War II the Royal Canadian Air Cadets reached a peak enrolment of 30,000. The authorized peacetime ceiling has recently been increased to 25,500 and the strength at Jan. 31, 1959, was approximately 24,840, enrolled in 324 squadrons across Canada. Air cadet training is carried out in more than 225 communities from Newfoundland to British Columbia. During the summer of 1958 camps were held at RCAF Stations at Greenwood, N.S., Clinton, Ont., and Sea Island, B.C., attended by about 6,000 cadets together with officers and instructors. A seven-week course for senior leaders and drill instructors was held for 200 cadets at RCAF Station, Camp Borden, Ont. A precision drill team of 40 cadets selected from the drill instructor course participated in an international drill display at Minneapolis, Minn.

The International Exchange Visits Program in 1958, sponsored jointly by the RCAF and the Air Cadet League, was very successful. Fifty-eight cadets were exchanged with the United Kingdom, the United States, Denmark, the Netherlands, Norway and Sweden.

About 250 senior air cadets receive flying training annually at flying clubs through scholarships awarded by the RCAF and additional scholarships are awarded by the Air Cadet League and other organizations. Under the Reserve Tradesman Training Plan, air cadets receive trades training in a nine-week summer course in addition to preparatory training with their respective squadrons during the school year.

Subsection 4.—The Defence Research Board

The Defence Research Board was established on Apr. 1, 1947, by an amendment to the National Defence Act. The Board consists of a full-time chairman and vice-chairman, six ex officio members and seven other appointed members. The ex officio members are the Chiefs of Staff of the three Armed Services, the Deputy Minister of National Defence, the President of the National Research Council and a representative of the Department

of Defence Production. The other members, appointed by the Governor in Council for three-year terms, are selected from universities and industry because of their scientific and technical backgrounds.

The organization consists of headquarters staff, an operational research group and ten field research stations, and liaison offices at London, Eng., and Washington, U.S.A. Advisory committees composed of leading Canadian scientists provide invaluable assistance to the Board by their consideration of a variety of problems.

The Government, realizing the vital need for continuity in research, planned the Defence Research Board as a fully integrated and permanent part of the defences of the country. To assist co-ordination at the highest level, the Chairman of the Board has the status of a Chief of Staff and is a member of the Chiefs of Staff Committee and of the Defence Council. Thus the Defence Research Board has been described as a fourth service. Its fundamental purpose is to correlate the special scientific requirements of the Armed Forces with the general research activities of the scientific community at large. The Board's policy is to select and concentrate its efforts upon defence problems of particular importance to Canada or for which Canada has unique resources or facilities. Existing research facilities such as the National Research Council are used wherever possible to meet the needs of the Armed Forces. The Board has built up new facilities only in those fields that have little or no civilian interest. From the policy of specialization it follows that close collaboration must be maintained with Canada's larger partners. Specialization is made possible only through the willingness of the United Kingdom and the United States to exchange the results of their broader programs for the less numerous but none the less valuable benefits of Canadian research.

The activities of the Defence Research Board are concerned primarily with naval, armament, telecommunications, Arctic, special weapons, operational, medical, aeronautical and materials research problems of specific interest to Canadian defence. To conduct this program of research, the Defence Research Board operates ten specialized research and development establishments and, in addition, organizes and supports research on problems of defence interest in universities and other agencies.

Research on naval problems is carried out at the Naval Research Establishment, Dartmouth, N.S., and at the Pacific Naval Laboratory, Esquimalt, B.C. Both stations are located adjacent to Royal Canadian Navy bases and consequently are able to work closely with the RCN, particularly on problems related to anti-submarine devices. Other major naval research investigations undertaken concern corrosion, marine paints, and underwater sound behaviour.

Research and development of weapons and armament is undertaken by the Defence Research Board in co-operation with the Armed Services at various establishments. The largest of these is the Canadian Armament Research and Development Establishment near Valcartier, Que. Its principal activities include research and development and testing of new and improved weapons.

Research on telecommunications is carried out in two laboratories at Ottawa—the Radio Physics Laboratory at Shirley Bay and the Electronics Laboratory on the Montreal Road. These two laboratories are known collectively as the Defence Research Telecommunications Establishment. This establishment is concerned with research in problems of communications and air navigation, with particular emphasis on basic research in the fields of radio propagation and electronic component development.

Research dealing with problems in Arctic operations is conducted at the Defence Research Northern Laboratory, Fort Churchill, Man. Recently the activities of DRNL have changed considerably, and during 1958 included support to the winding-up of the Canadian Geophysical Year (IGY) program and the associated United States IGY rocket program at Churchill.

Special weapons is the generic term used to cover research on the defensive aspects of chemical, biological and atomic weapons. This work is carried out at three Defence Research Board establishments—the Defence Research Chemical Laboratories at Ottawa,

Ont., the Suffield Experimental Station at Ralston, Alta., and the Defence Research Kingston Laboratory at Barriefield, Ont.

Military, psychological, clothing and food research is carried out intramurally at the Defence Research Medical Laboratories near Toronto and extramurally in Canadian universities by means of a grant-in-aid program. An important field of activity is aviation medicine but investigations include naval and army problems as well as studies on blood substitutes, infection and immunity, burns and wounds, the effects of noise on hearing, and other factors likely to affect a military man's efficiency and health.

Most of the basic aeronautical research program is also carried out extramurally in Canadian universities. The principal fields covered are aerodynamics, aircraft propulsion, and engineering materials. Applied research is carried out at the National Aeronautical Establishment at Ottawa and by contract with industry.

In all, the Board continues to support those fields of research which are of foremost interest to the Canadian Armed Services and the program is under continual review to ensure that cognizance is taken of all changes in emphasis in defence requirements. Close liaison is maintained between the Defence Research Board and the Department of Defence Production to ensure that research and development activities are closely integrated with production.

Section 2.—Services Colleges and Staff Training Colleges

Canadian Services Colleges.—The three Canadian Services Colleges are the Royal Military College of Canada founded at Kingston, Ont., in 1876, Royal Roads which was established in 1941 near Victoria, B.C., as a school for naval officers and Collège Militaire Royal de Saint-Jean established at St. Johns, Que., primarily to meet the needs of French-speaking cadets. The Royal Military College and Royal Roads were constituted as the Canadian Services Colleges in 1948, and Collège Militaire Royal de Saint-Jean was opened in 1952. In 1959 the Legislature of the Province of Ontario granted the Royal Military College a charter empowering it to grant degrees.

The purpose of the instruction and training at the Services Colleges is to impart the knowledge, to teach the skills and to develop the qualities of character and leadership essential to officers of all three Armed Services. The courses of instruction provide a sound and balanced liberal scientific and military education leading to degrees in Arts and Sciences which are granted by the Royal Military College. The organization and training give cadets the opportunity to command and to exercise judgment.

For cadets entering the Royal Military College and Royal Roads the course is of four years duration. As the third and fourth years of the college course are given only at the Royal Military College, cadets entering Royal Roads must proceed to that College for the final two years of the general or engineering courses. For cadets entering Collège Militaire Royal, which gives a preparatory year, the course is of five years duration. Cadets take the preparatory, first and second years at that institution and the final two years at the Royal Military College.

The College year is eleven months, divided into three terms: autumn, winter and summer. The months September to April are devoted to academic training supplemented by such military studies as drill and physical training. The summer term, May to mid-August, is spent in practical training at an establishment of the Service in which the cadet is enrolled. Academic requirements for admission to the first year at the Royal Military College and Royal Roads is senior matriculation (or its equivalent) in the following subjects: English, physics, mathematics (algebra, geometry and trigonometry), chemistry and either history or a language, preferably French. French-speaking candidates having a B.A. degree from a classical college may be accepted directly into the first year at Collège Militaire Royal. For admission to the preparatory year at that institution the academic requirement is junior matriculation (or its equivalent) in English, French, algebra, geometry, physics and chemistry, although consideration is given candidates who do not possess the standing in French. Candidates from the classical colleges require at least sixth-year standing.

To be accepted a candidate must be single, a Canadian citizen or British subject normally resident in Canada and physically fit in accordance with the medical standards of the Service in which he enrolls. The age limits for admission to the first year are between 16 and 21 years as of Jan. 1 of the year of entry; for admission to the preparatory year a cadet must have reached his 16th but not his 20th birthday on Jan. 1 of the year of entry. Personal interview and medical examinations of candidates is carried out by Service Boards located at various centres across Canada. Senior officers representing the Services and a faculty member from the Services Colleges sit on interview boards. The interview boards base their recommendations on the physical and personal qualifications of the candidates, with responsibility for final selection resting with a board appointed by the Minister of National Defence.

Since September 1954 virtually all cadets entering the Services Colleges have been required to enrol under the Regular Officer Training Plan. Under this Plan applicants accepted for entry enrol, according to their choice, as naval cadets in the Royal Canadian Navy, as officer cadets in the Canadian Army or as flight cadets in the Royal Canadian Air Force. All costs of tuition, board, lodging, uniforms, books, instruments and other essential fees are borne by the Department of National Defence, and cadets are paid at the rate of \$63 a month. On successfully completing their academic and military training, cadets are granted permanent commissions in the regular force but may, if they so wish, apply for release after three years of service following completion of academic training.

The only cadets now accepted at the Services Colleges in a reserve capacity are those who qualify for Dominion Cadetships, which are awarded by the Government in recognition of a candidate's parent having been killed, or having died or been severely incapacitated in the service of one of Canada's Armed Forces. A maximum of 15 Cadetships may be awarded in any one year, five in each Service. Each is valued at \$580, which covers first-year fees.

During the 1958-59 academic year, 932 cadets were in attendance at the Services Colleges; 426 of them at Royal Military College, 142 at Royal Roads, 364 at Collège Militaire Royal de Saint-Jean. Of the total, 166 were enrolled in the Navy, 362 in the Army and 404 in the Air Force.

Staff Training Colleges.—The Canadian Army Staff College at Kingston, Ont., trains officers for staff appointments in peace and war. The course is 21 months in duration with a student intake every second year. Though most of the student body is composed of Canadian Army officers, officers from the other two Services and from the armies of other Commonwealth and NATO countries also attend. Canadian Army officers must pass a searching entrance examination before being considered eligible for staff training. The system of instruction is based upon the study of précis and other references, demonstrations and lectures, indoor and outdoor exercises. Most of the work is carried on in syndicates, each under a member of the directing staff. Attention is paid to both individual and team work. Aside from purely military subjects such as the study of modern tactics, the curriculum includes national survival, research and development, world affairs and lectures by prominent guest speakers.

The National Defence College at Kingston, Ont., opened on Jan. 5, 1948, is a senior defence college providing an 11-month course of study covering the economic, political and military aspects of the defence of Canada. Senior officers and civil servants from the Armed Forces and government departments attend as well as a few representatives from industry. An extensive lecture course is provided, with lecturers chosen from leaders in various fields in Canada, the United States, the United Kingdom and other countries. In addition, educational tours and visits to certain parts of Canada, the United States, Europe and the Middle East are made to give students more knowledge of conditions and influences in their own and other countries. The twelfth course, from September 1958 to July 1959 was attended by 30 students, three from the Royal Canadian Navy, four each from the Canadian Army and Royal Canadian Air Force, one from the Defence Research Board, two from the Department of External Affairs, one each from the Department of

Defence Production, the Department of National Revenue, the Department of Finance, the Department of Trade and Commerce, and the Department of Transport, and two students from the Royal Canadian Mounted Police. Representation on the course from outside Canada included one member each from the Royal Navy, the British Army, the Royal Air Force, the Foreign Office of the United Kingdom, the Commonwealth Relations Office, the United States Navy, the United States Army, the United States Air Force and the State Department of the United States.

The Royal Canadian Air Force Staff College at Armour Heights in Toronto, Ont., is a permanent establishment preparing officers for staff appointments in the Air Force. The course affords advanced Service education for officers normally of Wing Commander and Squadron Leader ranks, fitting them for appointments appropriate to their present ranks and preparing them to assume higher appointments. The Directing Staff selected from the Royal Canadian Air Force is augmented by an exchange officer from each of the Royal Canadian Navy, the Canadian Army, and the Royal Air Force. The student body, in addition to Royal Canadian Air Force officers, has eight representatives from the Royal Canadian Navy, and one or two from each of the Canadian Army, the Royal Air Force and the United States Air Force. The objective of the course is to assist the student to think logically and express his ideas with precision both orally and in writing, to know his Service and understand the employment of air forces, to keep abreast of scientific and technical developments that may affect the employment of air forces and to gain a perspective of national and international problems. Lecturers are drawn, when desirable, from industry, the Armed Forces, the diplomatic corps and universities. Instructional visits are made to commercial and military establishments at home and abroad.

PART II.—DEFENCE PRODUCTION*

Under the provisions of the Defence Production Act (R.S.C. 1952, c. 62, as amended), the Department of Defence Production has exclusive authority to procure the goods and services required by the Department of National Defence and the responsibility to ensure that the necessary productive capacity and materials are available to support the defence production program. The Department also buys material for the Civil Defence program and serves as procurement agent for the Canadian Commercial Corporation, a Crown company primarily responsible for the purchase in Canada of defence goods required by other governments and of supplies needed to meet Canadian commitments under the Colombo Plan and other international agreements. Military construction is the prime responsibility of Defence Construction (1951) Limited, a Crown company reporting to Parliament through the Minister of Defence Production.

During 1958 the Department of Defence Production and Defence Construction (1951) Limited placed defence contracts on behalf of the Department of National Defence having a total net value of \$730,652,000, this representing an increase of 20.6 p.c. over the preceding year. (The net value of contracts placed includes the value of new contracts issued as well as the value of amendments that increased or decreased the commitments of existing contracts.) Although most of the major defence production programs registered increases in the net value of contracts issued during the year, a notable exception was the significant decline in the electronics and communication equipment program, resulting primarily from the termination of the integrated electronic system for the *CF-105 Arrow* aircraft.

Contracts and amendments issued in connection with the aircraft program, the largest area of defence procurement, amounted to \$300,185,000, an increase of 55 p.c. over 1957. This program accounted for 41 p.c. of the total net value of contracts placed in 1958, as compared with 32 p.c. in the previous year. The major commitments were for the supersonic *CF-105 Arrow* aircraft and its *PS-13 Iroquois* jet engine, the *CS2F Tracker* carrier-based aircraft, the *CP-107 Argus* maritime reconnaissance aircraft and the *CC-106* long-range transport, the *T-33 Silver Star* jet trainer, the new *CC-109 Cosmopolitan* medium-

* Prepared by the Economics and Statistics Branch, Department of Defence Production, Ottawa.

range transport, and the *Sparrow II* guided missile, which was subsequently cancelled. A large volume of contracts was placed for the repair and overhaul of airframes, engines and components during the year.

The electronics and communication equipment program was responsible for a net value of \$73,409,000 in contracts placed. The largest commitments involved the integrated electronic system (*Astra*) for the *CF-105*, but this project was also cancelled before the end of the year. Other major items of this program included certain types of radar sets and radar conversion sets, sonobuoy transmitters, maintenance and support for radar lines, and the engineering, supply, installation and temporary maintenance of the *ADCOM II* communication system.

Increased commitments on a number of destroyer escorts accounted for a large portion of the \$77,140,000 net contract value of the ships program. A contract was issued for construction of the lead ship of the Repeat Restigouche class of destroyer escorts. Many of the long-lead items for this group of escorts were ordered, such as turbo-driven auxiliaries, diesel generating sets and marine turbine reduction gearing.

Other items involving major commitments were 7.62mm (FN) rifles and 20 pdr. and 7.62mm ball cartridges. Aviation gasoline and turbo-jet fuel again accounted for a large part of the value of procurement contracts. Fuel procurements as a whole declined slightly in value. Defence construction contracts were up 11 p.c. over 1957 to \$66,956,000.

The value of expenditures on defence procurement and construction amounted to \$757,727,000 in 1958, almost 13 p.c. lower than in 1957. All major programs registered declines except weapons, and electronic and communications equipment, which increased moderately. The largest expenditure decreases occurred in the construction and ships programs, being 54 p.c. and 40 p.c., respectively. The aircraft program accounted for 45 p.c. of all defence procurement and construction expenditures in 1958, electronics and communication equipment for 13.1 p.c., ships for 6.6 p.c., construction for 6.4 p.c., and fuels and lubricants for 6.1 p.c.

Of the total net value of contracts issued during 1958, 97.3 p.c. was placed in Canada as compared with 91.0 p.c. in 1957; the increase was largely attributed to reductions in the value of some older contracts for government-furnished aircraft equipment purchased in the United States and to the termination of the *Astra* and *Sparrow* programs. The proportion of expenditures paid to defence contractors in Canada was 92.3 p.c. of total payments on defence procurement and construction, approximately the same as in the preceding year.

1.—Net Value of Total Canadian Government Defence Contracts Placed, by Program, 1957 and 1958

NOTE.—Net value includes the value of all new contracts awarded together with the value of amendments issued which increased or decreased the commitments of existing contracts.

Program	1957	1958	Program	1957	1958
	\$'000	\$'000		\$'000	\$'000
Aircraft.....	193,950	300,185	Fuels and lubricants.....	58,231	53,907
Ships.....	55,743	77,140	Clothing and equipage.....	7,614	6,124
Tank-automotive.....	12,277	10,674	Construction.....	60,316	66,956
Weapons.....	cr18,064	10,632	Other.....	106,279	110,328
Ammunition and explosives....	6,497	21,298			
Electronics and communication equipment.....	123,209	73,409	Totals.....	606,054	730,652

2.—Value of Expenditures on Canadian Government Defence Contracts Placed, by Program, 1957 and 1958

Program	1957	1958	Program	1957	1958
	\$'000	\$'000		\$'000	\$'000
Aircraft.....	346,436	341,022	Fuels and lubricants.....	47,826	46,512
Ships.....	83,579	49,937	Clothing and equipage.....	10,652	7,088
Tank-automotive.....	13,992	11,883	Construction.....	105,380	48,516
Weapons.....	15,623	18,153	Other.....	116,382	110,289
Ammunition and explosives...	31,085	24,857			
Electronics and communication equipment.....	98,676	99,469	Totals.....	869,636	757,727

Aircraft.—In 1958 two Canadian designed and produced aircraft successfully completed their maiden flights—the *CF-105 Arrow* aircraft,* a supersonic all-weather jet interceptor, and the *DHC-4 Caribou*, a twin-engined troop transport and cargo carrier. Aircraft production declined as programs that had been in progress for several years were completed. The *F-86 Sabre* production line closed down in October following completion of an order for the West German Air Force, and the last *CF-100 Canuck* was completed in December. Production of the *T-33 Silver Star* jet trainers continued at a low rate, the program nearing completion at the end of 1958. *Otter* and *Beaver* general-purpose aircraft continued to be produced at the same rate as in 1957; the majority of these aircraft were purchased by the United States Government. Steady rates of production were also maintained for the maritime reconnaissance *CP-107 Argus* aircraft and the carrier-based anti-submarine *CS2F Tracker*. Manufacturing started on two new aircraft types: the *CC-106*, which is a long-range transport version of the *CP-107 Argus*, and the *CC-109 Cosmopolitan*, which is a medium-range transport. Both aircraft are powered by British turbo-prop engines.

Deliveries of the *Orenda* jet engine, which powers *CF-100* and *Sabre* aircraft, were completed in July. No further *Orenda* engines were purchased by the Department although contracts continued to be placed for spare parts, modification kits, publications and field services. Development, tooling and prototype production of the more advanced *PS-13 Iroquois* jet engine for the *CF-105* aircraft* proceeded satisfactorily. Production of *R-1820-82* piston engines and Hamilton Standard propellers for the *CS2F Tracker* aircraft continued during the year. The rate of production of these items was reduced as a result of a re-assessment by the Navy of its spare engine requirements and a consequent reduction in the number of engines ordered. The United States Government continued to buy a large quantity of *R-1340* piston engine spares from a Canadian source.

Canadian production of flight instruments, gyro compasses, pressure indicators and transmitters was almost completed in 1958. Production of the navigation and tactical control (ANTAC) system developed satisfactorily after difficulty with some of the components. The position and homing indicator reached the final development stage and was expected to receive flight trials early in 1959. One of the major developments in the instrument field was that of a low-drift gyro, of which the latest design was approved. Additional quantities of *R-Theta* computers were ordered for the Royal Canadian Air Force.

The repair, overhaul and maintenance of aircraft, engines and associated equipment continued on a fairly large scale, although the volume of work declined from the preceding year.

* Production of the *CF-105 Arrow* aircraft was discontinued as a result of a Government decision announced Feb. 20, 1959.

Pre-production engineering, tooling and qualification testing of the *Sparrow II* missile, which was initiated in 1957 to enable the production of this missile for the *Arrow* aircraft, continued during the first nine months of the year. However, all contracts related to this program were terminated on Sept. 23, 1958, following the Government's decision to cancel the requirement. A number of engineering study contracts were awarded to provide useful work for a nucleus of the engineers who had been employed on the *Sparrow* projects until new programs could be introduced.

Electronics.—In the field of ground electronics, the major item during 1958 was the initiation of the Pinetree radar line improvement program in both the Royal Canadian Air Force and the United States Air Force sectors. This consisted of tooling and pre-production engineering work on the new search and height-finding radars to be installed at existing Pinetree sites. A contract was placed for a new air defence communications system in eastern Ontario and southern Quebec. Work on this involved engineering and manufacturing of necessary equipment and planning for the later introduction of semi-automation into the air defence electronic ground environment.

Ground maintenance and airborne repair and overhaul contracts, together with orders for the necessary spares support, constituted a major part of the contracting activity in the electronics program. During the year, contracts were placed for the complete operational maintenance of the Mid-Canada early warning radar line, for over-all maintenance of the Pinetree line, and for a large volume of spares and repair and overhaul work.

Production continued on the provision of ultra high frequency (UHF) equipment, which included the introduction of one-kilowatt amplifiers at selected Royal Canadian Air Force sites. In the field of electronic equipment for military vehicles, arrangements were made for the acquisition of data necessary for the manufacture in Canada of a new transistorized multi-channel radio communication set. The requirement for ships was primarily in the field of anti-submarine warfare equipment and was made up of a wide variety of items rather than any special major program. The largest single item was the continued production of sonobuoys.

Airborne electronic equipment continued its rapid growth in capabilities and complexities. A significant occurrence in the airborne field was the termination of the integrated electronic system (*Astra*) for the *Arrow* aircraft and the *Sparrow II* missile. To assist in sustaining the fire control and missile engineering complex in Canada, engineers were engaged in a number of study projects for the Department of National Defence. Contracts were also placed for the production in Canada of flight simulators and general purpose instruments and procedure trainers. Programs were introduced for ultra high frequency communication and selective identification equipment in all aircraft.

Shipbuilding.—The first two ships of the second group of seven destroyer escorts known as the Restigouche class were commissioned in 1958, the other five being scheduled for completion in 1959 (see p. 1158). A third group of destroyer escorts, a repeat of the Restigouche class, was approved. Allocation to shipyards of the six ships of this group was authorized, and construction of the lead ship started in 1958. Contracts were also placed for machinery and other key items of supply for this program.

The last vessel in the frigate conversion program and two auxiliary vessels (work boats) were completed early in 1958. Sixty-eight small boats were under construction during the year, varying in size from 27-foot motor sea boats to 14-foot dinghies; 50 of these small craft were completed. Authority was received and procurement negotiations begun for the construction of an acoustic calibration barge for the Defence Research Board. A substantial number of Canadian-manufactured torpedoes were delivered during the year.

Weapons and Ammunition.—Production of the second order of 105mm howitzers for the Canadian Army was virtually completed in 1958 and manufacture of a third order was initiated. Production continued on long-term spares and fire control instruments for Army howitzers. Manufacture of the 7.62mm C-1 (FN) rifle was maintained and

first deliveries of the heavy-barreled automatic version were made. Production of snipers' telescopes for use with the new rifle was begun. Tool-proving and other pre-production processes were carried out in preparation for production of the 9mm sub-machine gun. Some 105mm recoilless rifles were procured from United States stocks for the Canadian Army. Deliveries were continued from the United Kingdom of 3"/70 cal. twin naval guns and mounts for installation in the later destroyer escorts. The first phase of a project to provide weather-shields for naval guns was also completed during the year. Heavy anti-submarine mortars continued to be produced.

Production of ammunition and explosives declined in 1958 from the preceding year, with the completion of such production items as high explosive and practice anti-submarine projectiles, 3"/70 cal. practice and dummy ammunition, 3"/50 cal. anti-aircraft ammunition, "T" cutters and various types of small arms ammunition for the Royal Canadian Navy; 105mm and 90mm artillery ammunition of various functional types, 60mm white phosphorus mortar ammunition, 2" mortar illuminating and red flare bombs, anti-tank training mines, and 3.2", 100mm and 3.5" infantry rockets for the Canadian Army; and 3 lb. signal and practice bombs, an explosive link assembly and various pyrotechnics for the Royal Canadian Air Force. The manufacture of artillery and mortar ammunition, infantry and air rockets, mines, small arms ammunition, demolition stores and pyrotechnics continued throughout the year. The main items of production included practice depth charges, 4" and 3"/70 cal. ammunition, 81mm white phosphorous and 60mm illuminating ammunition, 105mm, 90mm and 20 pdr. rounds of several kinds, 7.62mm ammunition, marine markers and air-to-air rockets. Production commenced in 1958 on a 2.75" rocket propellant, under-water fuzes, a high explosive filling for torpedo warheads and a 60mm illuminating round. In addition, stocks of ammunition received from depots were repaired and modified.

A quantity of *Sidewinder* guided missiles, too few for economical manufacture in Canada, was purchased in the United States for the Royal Canadian Navy.

Construction.—Construction activity for the Canadian Armed Forces, as measured in terms of payments to contractors, declined substantially in 1958 although the net value of contracts placed increased. The largest contract awarded by Defence Construction (1951) Limited was for the construction of a tri-Service hospital in Ottawa. Construction work was started on a program of additions and improvements to Pinetree radar stations. In Europe, construction work continued on additional facilities for the Canadian Air Division at Metz and for two Fighter Wings stationed at Marville and Gros Tenquin in France. Two of the largest projects undertaken for the Army were the paving of 50 miles of the Northwest Highway System and the construction of the new Peace River bridge. Other large projects included work at Sarcie Camp, Alta., at Barriefield, Ont., and at the Royal Military College, Kingston, Ont. The major Navy projects were at Esquimalt, B.C., and at Cornwallis, N.S.

General Purchasing.—The procurement of supplies and services not normally requiring special production facilities declined slightly in 1958 to \$177,000,000 from \$184,000,000 in 1957.

Purchases by the headquarters organization included such items as mechanical transport, road maintenance equipment and aircraft ground support equipment, together with their necessary maintenance spares and servicing; petroleum products and hard fuels; canned foods; furniture and furnishings; medical and dental stores, building supplies and hardware; all types of barrack and naval stores; electrical equipment and cable; clothing, footwear and leather goods. Services covered certain research and development projects, aerial surveys, engineering, and food catering. Major contracts placed during the year covered an electronic control aerial survey in the Baker Lake area; the rental of helicopters and fixed-wing aircraft to support ground survey teams of the Department of National Defence operating in the district of Franklin, N.W.T.; and meteorological, geophysical and glaciological studies in connection with the International Geophysical Year expedition in the Northwest Territories. Other contracts covered the purchase of

cobalt for biological experiments by the Defence Research Board; a stratosphere chamber and control unit to test airborne equipment; and albumin (blood) serum, drugs and medical supplies for the civil defence program. Development work was involved in the prototyping of the *Rat*, a vehicle primarily designed for cross-country travel on snow, and of the *Bobcat*, a multi-purpose light-tracked carrier.

District Purchasing Offices located in fourteen cities across Canada continued to purchase fresh foods and other supplies of a local or urgent nature and to arrange for services required by the defence establishments located in their vicinity. The facilities of several of the District Offices were utilized effectively to arrange winter employment on certain construction projects.

Production Sharing.—Production sharing is the integration of the defence production capabilities of Canada and the United States to bring about the most economical and efficient development and manufacture of military weapons for the defence of North America. It is a natural extension of the integration of the defence forces of the two countries under the North American Air Defence (NORAD) agreement.

The present program of co-operation arises out of two agreements between Canada and the United States: the Hyde Park Agreement of 1941 and the Statement of Principles for Economic Co-operation of 1950. In the autumn of 1958 a joint committee approved a set of immediate and long-term objectives of Canadian-United States production sharing. The immediate objective is to increase the participation of Canadian industry in the production and support of North American defence weapons and equipments. The continuing long-term objective is to co-ordinate the defence requirements, development, production and procurement of the two countries in order to achieve the best use of their respective production resources for their combined defence, in line with the concept of interdependence and the integration of military arrangements.

Procedures were established with the United States Government to carry out the program. Under the general aegis of the Canada-United States Ministerial Committee on Joint Defence, these involve a Senior Policy Committee comprised of senior officials of the Canadian Departments of Defence Production, National Defence, External Affairs and Finance, and the United States Department of Defense, a Steering Group to handle the co-ordination of all activities, and a number of Working Groups consisting of technical personnel who work out the detailed arrangements for production sharing of specific projects of mutual interest. Notable among these are the *Bomarc* missile, *SAGE* communication and radar programs which are common to the defence requirements of both countries.

Efforts to secure more equal opportunity for Canadian industry with United States industry in seeking United States prime contracts have been of greatest importance. This activity has also been extended to the creating of greater opportunities for major sub-contracts in Canada from United States prime contractors, notably in the important new fields of missiles and electronics. The Canadian defence industry is being encouraged to be more aggressive in seeking United States defence prime contracts and in familiarizing United States Government defence agencies and prime contractors with their capabilities in research, development and production of defence equipment.

PART III.—CIVIL DEFENCE

On Mar. 23, 1959, the Prime Minister, the Rt. Hon. John G. Diefenbaker, stated in the House of Commons that the Government had reviewed the arrangement of responsibility for civil defence tasks and that the Army would undertake primary and direct responsibility for the warning of attack, the location and monitoring of explosions and radioactive fallout, the assessment of damaged areas, decontamination and clearing of such areas, and rescue of the injured. The health and welfare aspects of civil defence are to remain the responsibility of the Department of National Health and Welfare but with increased financial and technical assistance to provincial authorities.

The Federal Government also offered increased support for special expenditures incurred by provincial and local authorities in making preparation for wartime traffic control and the preservation of law and order, this to be administered by the RCMP, which will also provide whatever technical and general advice may be necessary.

The Emergency Measures Organization, attached to the Privy Council Office, will co-ordinate the work of other agencies in the field of civil defence measures and planning as it does in respect of other civilian measures to prepare for war. Federal responsibilities not allocated to other departments or services will be assumed by this organization. Liaison with provincial governments on particular functions will be the responsibility of those dealing with such functions, but EMO will be charged with general responsibility for contact with the provincial authorities.

Historically, civil defence began in Canada in 1948 when the Minister of National Defence appointed a Co-ordinator for Civil Defence. In 1951 the administration of Civil Defence was transferred to the Department of National Health and Welfare with the Minister being charged with the responsibility of federal policy matters. As of the first of September 1959, the Emergency Measures Organization of the Privy Council Office will be the co-ordinating body for the new survival planning program in Canada with the Departments of National Defence (Army), Health and Welfare and other appointed government agencies carrying out their respective roles.

Canadian civil defence is organized at all levels of government—federal, provincial and municipal—each with its own sphere of responsibility. The provinces are self-contained units and are subdivided into zones for the purpose of providing mutual support to any disaster area. Because of geographical location in relation to probable target centres, certain areas have been designated as mutual aid or reception areas. Administrative and organizational responsibilities for each are: federal—planning, policy and financial assistance; provincial—organization and implementation; municipal—execution of plans and policy.

The Federal Civil Defence Headquarters located in Ottawa has comprised the Civil Defence Co-ordinator and staff, including the following services: Planning and Operations, Training and Education, Health, Welfare, Information, Administration and Communications. Under the new survival planning program these responsibilities have been allocated to various government departments as mentioned above. Advisory committees included the Federal Civil Defence Planning and Policy Committee, an Interdepartmental Committee and a Federal-Provincial Advisory Committee composed of the federal and provincial Ministers responsible for Civil Defence, plus numerous government agencies which were available to the Federal Co-ordinator for consultation purposes.

In liaison with the RCAF, a national attack warning system had been established under civil defence auspices with direct landline communication between federal headquarters in Ottawa and all provincial and target city headquarters. High-powered sirens are supplied by the Federal Government and installed and tested in vulnerable target areas across Canada. An extensive health supplies stockpiling program is continuing with the co-operation of the Departments of National Defence and Veterans Affairs.

Civil defence training courses, begun in 1951, have been continually expanded. More than 12,000 persons from across Canada have attended courses at the Canadian Civil Defence College at Arnprior, Ont., since its establishment in 1954. Thirteen basic courses are available dealing with such subjects as: health, welfare, communications, transportation, staff duties, casualty simulation, rescue and radiation detection. In addition, special forums have been held for groups representing the press, clergy, mayors, police and fire departments and national and industrial organizations. Training is also conducted under provincial auspices with British Columbia, Alberta, Saskatchewan and New Brunswick operating civil defence schools. On Mar. 31, 1959, the total enrolment of civil defence volunteers was 279,320.

Under the Financial Assistance Program of the Federal Government each province is provided with a money quota based on population and vulnerability. Prior to the March announcement of the Prime Minister, 50 p.c. of the cost of an approved project was

contributed by the Federal Government and the remainder shared by the municipality and the province; henceforth the Federal Government's share of an approved project will be 75 p.c. A minimum of 50 p.c. was contributed direct to a municipality for projects in which the provincial government did not share the cost. Training aids, fire and rescue equipment, and educational material were supplied by Federal Headquarters to further provincial and municipal programs.

A fire-hose coupling standardization program, to which the Federal Government contributed one-third of the cost, has been completed in British Columbia, Alberta and Ontario. Payments for workmen's compensation for civil defence workers are shared by agreement on an equal basis by the Federal Government and the majority of the provinces.

Many technical and training manuals, booklets and brochures were produced for Federal Civil Defence Headquarters by the Information Services Division of the Department of National Health and Welfare. In addition, pamphlets, folders, training aids, films, slides, newsclips and radio, newspaper and television material were produced and distributed as part of a continuing public information program.

Civil defence development and problems are constantly under discussion and study with the United States, the United Kingdom and other NATO countries. As the result of an agreement made between Canada and the United States in 1951, a United States-Canada Civil Defence Committee meets at regular intervals to further the bond of mutual assistance in the event of enemy attack.

CHAPTER XXVII.—SOURCES OF OFFICIAL INFORMATION AND MISCELLANEOUS DATA

CONSPECTUS

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NOTE.—The interpretation of the symbols used in the tables throughout the Year Book will be found facing p. 1 of this volume.

PART I.—SOURCES OF OFFICIAL INFORMATION

Section 1.—Federal Government Information Services

The chief source of statistical information on all phases of the economy of Canada is the Dominion Bureau of Statistics where the ten-year and five-year censuses of Canada are planned and statistical information of all kinds—federal and provincial—is centralized. Information that is not mainly statistical may be secured from the individual Department concerned with the particular subject as indicated in the Directory at pp. 1183-1213. Certain government bodies and national agencies, because of the nature of their work and the appeal it has to broad sections of the population, are organized primarily as information or publicity agencies. Among these are: the Information Division, Department of External Affairs, which deals with questions about external affairs originating in Canada and with general requests originating abroad for information on Canada and Canadian affairs; the Trade Publicity Branch, Department of Trade and Commerce; the Information Services Division, Department of National Health and Welfare; the Canadian Broadcasting Corporation; and the National Film Board. (*See Index.*) The Departments of Agriculture, Northern Affairs and National Resources, and Mines and Technical Surveys, and such agencies as the National Gallery of Canada, the National Museum of Canada, the National Library, and the National Research Council, while not thus classed, are interested in the dissemination of information to a greater extent than most of the remaining government departments, though several of the latter have publicity branches or public relations divisions.

Government departments, with few exceptions, issue their own lists of reports and publications. Departments are required by statute to publish annual reports, which are tabled each year in the House of Commons by their respective Ministers. However, for the purpose of this Section, only the services of the six information agencies mentioned above are described.

Section 2 has been prepared for the purpose of presenting to the reader a directory of all sources of information, federal and provincial, thereby directing him to the proper channels from which he may draw published material relating to any particular subject.

The Dominion Bureau of Statistics.—The Dominion Bureau of Statistics was set up by Statute in 1918 as a central statistical department for Canada (8-9 Geo. V, c. 43). In 1948 this statute, which had been consolidated as the Statistics Act (R.S.C. 1927, c. 190), was repealed and replaced by the Statistics Act (R.S.C. 1952, c. 257), subsequently amended in March 1953 (1-2 Eliz. II, c. 18).

The chief aims of the Dominion Bureau of Statistics are: (1) to furnish statistical data bearing on Canada for government and administration, whether municipal, provincial, national or international; and (2) to assist in meeting the needs of non-governmental users of statistics, arising from a growing awareness of the value of statistics to business efficiency and social planning.

Inquiries.—Hundreds of individual requests for information are received each day in the Information Services Division of the Bureau, routed through the appropriate divisions and answered as expeditiously as possible. Since the field of effort from the statistical side deals with all phases of the national economy, there is scarcely a subject upon which the Bureau is not able to give some information. Nevertheless only inquiries of a statistical nature should be directed to the Dominion Bureau of Statistics.

Publications.—Dominion Bureau of Statistics reports cover all aspects of the national economy; the *Canada Year Book* and *Official Handbook Canada* constitute authoritative compendiums of information on the institutions and economic and social development of Canada.

DBS publications are listed in a catalogue of *Current Publications* and in the Queen's Printer's *Catalogue of Canadian Government Publications*. The *DBS Daily Bulletin* and *Weekly Bulletin*, available from the Bureau's Information Services Division at an annual subscription of \$1.00 each, are designed to serve persons wishing to keep closely informed on the full range of published information issued by the Bureau. Subscription orders for DBS publications or orders for single copies should be addressed to the Information Services Division, Dominion Bureau of Statistics, Ottawa, and should contain the necessary remittance in the form of a cheque or money order made payable to the Receiver General of Canada.

Information Division, Department of External Affairs.—The Information Division has two functions: to promote within Canada interest in and knowledge of international affairs, and to make Canada and Canadian policies better known and understood abroad.

To perform the first function the Division produces and distributes various documents on external affairs—statements of government policy and reports on related developments abroad and on the work of the Department generally. The Division also answers inquiries from Canadian sources on these subjects as well as requests for information about Canada made by Diplomatic Missions at Ottawa, by Canadian posts abroad, and by individuals and organizations in other countries.

Most of the information work abroad is done, however, by officials at Canadian posts. The Information Division assists by formulating and advising on information policy abroad in an effort to ensure that this policy is related to the general objectives of Canadian foreign policy, and by producing and procuring material to keep Missions informed of developments within Canada. Journalists and others who visit Canada to write of Canadian affairs are given assistance from time to time by the Division; its responsibilities also include the co-ordination of the Government's activities in the field of cultural relations.

Trade Publicity Branch, Department of Trade and Commerce.—For details see p. 1040.

Information Services Division, Department of National Health and Welfare.—The responsibility of this Division, in co-operation with other divisions of the Department of National Health and Welfare and provincial authorities, is the production and distribution of educational material on health, welfare, social security and civil defence, for use

throughout the country. This information, issued in the English and French languages, includes books, pamphlets, periodicals, posters, exhibits, displays, radio dramatizations, press and magazine features and releases, as well as films and film-strips prepared in co-operation with the National Film Board. Books, pamphlets, posters and displays are distributed in Canada through provincial authorities. The most important periodicals published by the Division are *Canada's Health and Welfare* (monthly), *Canadian Nutrition Notes* (monthly), *Occupational Health Bulletin* (monthly), *Industrial Health Review* (semi-annually) and *Nutrition Bulletin* (annually).

Canadian Broadcasting Corporation.—Television and radio broadcasting are important mediums of information to the public along with newspapers, films and other means of communication. Broadcasting in Canada combines, in one national system, publicly owned stations and privately owned local community stations, many of which are affiliated with the Canadian Broadcasting Corporation's networks.

Since its establishment in 1936 the Canadian Broadcasting Corporation has become one of the most effective channels through which information, official and unofficial, is broadcast to the people of Canada. Radio is relatively more important in Canada than in most countries because of the widely distributed population and the number of sparsely peopled areas, and the CBC has gradually bridged the gaps with high-powered transmitters designed to serve rural as well as urban areas. The CBC has also pioneered in the development of low-powered repeater stations attached to the network lines, which serve areas unable, because of topographical conditions, to receive an adequate signal, from any existing station.

News broadcasts and information programs occupy a considerable proportion of national and regional network time. All CBC schedules include news, music, drama, informative talks, children's programs, school broadcasts, public service broadcasts, sports, women's activities, etc. There is a very wide range of radio and television fare, since the CBC not only produces its own programs in the various production centres across Canada but brings in selected programs from the networks of the United States, the British Broadcasting Corporation and other national radio and television systems. The CBC maintains a bureau at London, England, and at United Nations Headquarters in New York, and is credited with having done more to inform listeners of United Nations activities than any other broadcasting system.

Through the International Service operated by the CBC on behalf of the Canadian Government, programs are broadcast over shortwave in 16 languages: English, French, German, Dutch, Danish, Norwegian, Swedish, Italian, Spanish, Portuguese, Czech, Slovak, Russian, Ukrainian, Polish and Hungarian. The CBC International Service broadcasts information abroad on life and economic conditions in Canada as part of the general information plan for promoting a better understanding of Canada in other countries. In addition to this regular shortwave program service, the International Service provides special programs for transmission by broadcasting systems in other countries by means of shortwave relays or recordings on tape or disc. A library of musical and spoken-word programs is made available to foreign broadcasting systems through processed transcriptions for wide distribution.

National Film Board.—The National Film Board produces films, film-strips and still photographs on a great variety of subjects. In keeping with its terms of reference, the Board's products are both informative and interpretative, and are widely distributed throughout the world through theatrical and television media and non-theatrical channels.

In Canada, films are seen non-theatrically by the public by means of a distribution network of more than 600 film libraries and voluntary organizations which provide local facilities for community use of films placed in circulation through sales and loans. The Board maintains a preview library of 5,000 prints from many sources; libraries are also maintained containing films on such subjects as health, medicine, sociology and industry for the use of government departments and special-interest groups.

Non-theatrically abroad, the National Film Board provides films and assistance to libraries operated by the Department of External Affairs in 54 Missions, to nine libraries operated in trade posts by the Department of Trade and Commerce, and to diplomatic Missions for use by commercial counsellors. In conjunction with the Canadian Government Travel Bureau, the Board carries out a travel film program to encourage travel in Canada by United States residents by arranging film distribution through 493 outlets in that country and by providing a special library of travel films for television use. Exchange and loan agreements are made with governmental and other organizations in many countries in order to obtain or extend distribution wherever possible. National Film Board offices abroad are located in New York and Chicago in the United States, New Delhi in India, and London, England.

The Board's library of approximately 100,000 still photographs serves government departments, commercial photographers, newspapers, periodicals and many other organizations in Canada and abroad.

Section 2.—Directory of Sources of Official Information (Federal and Provincial)

To make the best use of the Directory of Sources of Government Official Information, it is necessary that the reader understand the broad differences in function between federal and provincial departments and their separate fields of work.

Certain fields of effort, such as trade and commerce, customs and excise, currency and banking, navigation, transportation, radio, census of population and national defence are constitutionally federal affairs and in such fields the respective Departments at Ottawa are the proper sources with which to communicate. Other fields of effort such as the administration of lands and natural resources, education, roads and highways, and health and hospitals are the responsibility of the provinces but certain Federal Departments are also concerned with specific aspects of these subjects and, as is the case of the Dominion Bureau of Statistics, in the co-ordination and presentation of the material for Canada as a whole.

As a general guide to the public, it may be pointed out that questions relating to the actual development and administration of resources should be forwarded to the particular provinces concerned. The Government of Canada, while not administering the resources within provincial boundaries, co-operates closely with the provinces and is in a position to furnish material for Canada, especially production data on a national basis, marketing data on international, national and provincial bases, research work and experimental station data on a national basis, and also on a provincial basis from Federal Government stations located within particular provinces. In agriculture, for instance, data on the breeding of livestock and the improvement of strains, on agricultural marketing and on crop yields are cases in point; in forestry, questions of forest research, forest fire protection and reforestation offer good examples. Inquiries directed to federal sources for information not of a statistical nature should as a general rule be sent to the individual Departments listed in the Directory; inquiries for information of a statistical nature should be addressed to the Information Services Division, Dominion Bureau of Statistics, Ottawa.

Sale of Official Publications.—Under the provisions of the Public Printing and Stationery Act, the Queen's Printer and Controller of Stationery, Ottawa, has charge of the sale of all official publications of Parliament and the Government of Canada that are issued to the public, as well as of the free distribution of all public documents and papers to persons and institutions (libraries) entitled by statutory provisions to receive them. The Dominion Bureau of Statistics acts as the agent of the Queen's Printer with respect to the sale of DBS publications and issues an annual catalogue entitled *Current Publications*.

The regulations relating to the distribution and sale of government publications made in accordance with the provisions of Sect. 7 of the Public Printing and Stationery Act and Sect. 7 (e) of the Financial Administration Act were brought up to date and approved by Treasury Board on Mar. 31, 1955.

In compliance with these regulations, the Queen's Printer and Controller of Stationery issues the *Daily Checklist of Government Publications* which records for the information of the public service, libraries, etc., all Federal Government publications immediately upon release. Those authorized by law or regulation to receive free copies of government publications receive the *Daily Checklist* without charge; others desiring the service may purchase an annual subscription to be forwarded daily or in weekly batches as requested.

The Queen's Printer and Controller of Stationery also issues the *Monthly Catalogue of Canadian Government Publications*, a comprehensive listing of all official publications, public documents and papers not of a confidential nature published at government expense, an *Annual Catalogue* (in January) listing all publications issued during the previous year, as well as sectional catalogues and selected titles bulletins advertising new government publications.

Most provincial government publications may be obtained from the Queen's Printer of the province concerned. Inquiries should be addressed to the provincial capital cities:—

Newfoundland.....	St. John's	Ontario.....	Toronto
Prince Edward Island...	Charlottetown	Manitoba.....	Winnipeg
Nova Scotia.....	Halifax	Saskatchewan.....	Regina
New Brunswick.....	Fredericton	Alberta.....	Edmonton
Quebec.....	Quebec	British Columbia.....	Victoria

Inquiries about the Yukon and Northwest Territories should be addressed to the Northern Administration Branch, Department of Northern Affairs and National Resources, Ottawa.

(Detailed Directory of Sources of Official Information follows, pp. 1183-1213.)

DIRECTORY OF SOURCES OF OFFICIAL INFORMATION

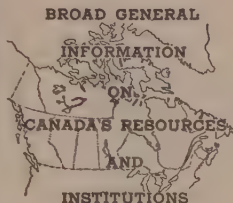
NOTE.—In the "Federal Data" column, the major source of information on each subject is given first; other sources follow in alphabetical order, with the exception of the National Film Board and the Dominion Bureau of Statistics which appear at the end of each listing with which they are concerned, except where they are the major source.

Sources for Federal Data

Subject

Sources for Provincial Data

Dept. of Agriculture
Information Division
Dept. of External Affairs
Information Division (general requests originating in all countries outside Canada)
Dept. of Fisheries
Information and Educational Service
Dept. of Mines and Technical Surveys
Editorial and Information Division
Mineral Resources Division
Dept. of National Health and Welfare
Information Services
Dept. of Northern Affairs and National Resources
Editorial and Information Division
Dept. of Trade and Commerce
Trade Publicity Branch
National Film Board (films, filmstrips, photographs on all subjects)
Dominion Bureau of Statistics



Dept. of Agriculture
Information Division
Canadian Farm Loan Board (mortgage loans)
Central Mortgage and Housing Corporation (mortgage loans for new farm houses)
Dept. of Citizenship and Immigration
Information Division
Dept. of Finance (farm improvement loans)
Dept. of Labour (farm workers)
Dept. of Northern Affairs and National Resources (Yukon and N.W.T.)
Dept. of Trade and Commerce
Agricultural and Fisheries Branch
Dept. of Veterans Affairs (veterans)
National Film Board
Dominion Bureau of Statistics

AGRICULTURE General and Farming

Dept. of Northern Affairs and National Resources
Editorial and Information Branch
Northern Administration Branch
Dept. of Citizenship and Immigration
Information Division (Indians)
Dept. of Mines and Technical Surveys
Editorial and Information Division
Dominion Observatories Branch
Geological Survey of Canada
Surveys and Mapping Branch
Geographical Branch
Dept. of National Defence
Director of Public Relations
Defence Research Board
Dept. of National Health and Welfare (health services)
Dept. of Public Works
Northern Construction Division
Dept. of Transport (airports, weather stations, navigation)
Fisheries Research Board of Canada
National Research Council
Division of Building Research (permafrost, buildings in the North, snow and ice)
National Film Board

ARCTIC

For broad general information in regard to particular provinces application should be made to: Nfld., Dept. of Provincial Affairs; P.E.I., Tourist and Information Bureau; N.S., Dept. of Provincial Secretary; N.B., Dept. of Industry and Development or Dept. of Provincial Secretary-Treasurer or N.B. Travel Bureau; Que., Dept. of Trade and Commerce, Bureau of Statistics; Ont., Dept. of Economics, Statistics Branch, or Dept. of Travel and Publicity; Man., Dept. of Industry and Commerce or Dept. of Provincial Secretary; Sask., Dept. of Travel and Information, or Executive Council, Industrial Development Office, or Economic Advisory and Planning Board; Alta., Publicity Bureau, Dept. of Economic Affairs; B.C., Dept. of Industrial Development, Trade, and Commerce, Bureau of Economics and Statistics.

Nfld.—Dept. of Mines and Resources
P.E.I., N.S., N.B., Sask.—Depts. of Agriculture
Que.—Dept. of Agriculture, Information and Research Branch
Dept. of Trade and Commerce
Bureau of Statistics
Ont.—Dept. of Agriculture, Farm Economics and Statistics Branch and Information Branch
Man.—Dept. of Agriculture and Immigration, Publications Branch and Extension Service
Alta.—Dept. of Agriculture
B.C.—Dept. of Agriculture, Dept. of Industrial Development, Trade, and Commerce, Bureau of Economics and Statistics
Dominion Bureau of Statistics (summaries of provincial data)

Sask.—Dept. of Natural Resources, Northern Administration District

Sources for Federal Data	Subject	Sources for Provincial Data
Dept. of Mines and Technical Surveys Dominion Astrophysical Observatory, Victoria, B.C. Dominion Observatory, Ottawa, Ont. National Research Council Radio and Electrical Engineering Division (radio astronomy)	ASTRONOMY	Que.:—Office of Provincial Secretary Quebec Society of Astronomy Sask.:—University of Saskatchewan, Saskatoon Alta.:—University of Alberta, Edmonton
Atomic Energy of Canada Limited (research studies, sale of radio-isotopes) Atomic Energy Control Board (policy, regulations) Dept. of Mines and Technical Surveys Geological Survey of Canada Mines Branch Eldorado Mining and Refining Limited	ATOMIC ENERGY	Sask.:—University of Saskatchewan, Saskatoon Alta.:—Alberta Research Council, University of Alberta Campus, Edmonton
Dept. of Transport Civil Aviation Branch (civil aviation control; airmen and aircraft licensing; provision of airports and air navigation facilities) Economics Policy Branch Dept. of Defence Production Aircraft Branch Dept. of Mines and Technical Surveys Legal Surveys and Aeronautical Charts Division Dept. of National Defence Directorate of Public Relations (RCAF) Dept. of National Health and Welfare Civil Aviation Medicine Division National Research Council National Aeronautical Establishment Trans-Canada Air Lines National Film Board Dominion Bureau of Statistics	AVIATION	Que.:—Quebec Government Air Services Ont.:—Dept. of Lands and Forests, Air Service Man.:—Manitoba Government Air Services Sask.:—Saskatchewan Government Airways
Bank of Canada Industrial Development Bank Dept. of Finance Dept. of Insurance (for trust and loan business; administrators also the Small Loans Act) Central Mortgage and Housing Corporation Post Office Department, Savings Branch Dominion Bureau of Statistics	BANKING Trust and Loan Companies	Nfld.:—Dept. of Finance Supreme Court Registry of Deeds P.E.I., N.S.:—Dept. of Provincial Secretary N.B.:—Dept. of Provincial Secretary-Treasurer Que.:—Dept. of Finance, Insurance Branch Dept. of Trade and Commerce Bureau of Statistics Ont.:—Province of Ontario Savings Office Attorney-General Dept. of Insurance Man.:—Dept. of Provincial Secretary Manitoba Development Fund Sask.:—Provincial Secretary, Registrar of Securities Dept. of Co-operation and Co-operative Development, Credit Union Services Alta.:—Government of Alberta Treasury Branches B.C.:—Dept. of Finance, Inspector of Trust Companies
Dept. of Justice Superintendent of Bankruptcy Dominion Bureau of Statistics	BANKRUPTCY	Man.:—Dept. of Provincial Secretary Sask.:—Provincial Secretary

Sources for Federal Data	Subject	Sources for Provincial Data
National Library (information re books in libraries of federal departments and other Canadian libraries; information on current Canadian publications) Department of Public Printing and Stationery (information re prices, availability or otherwise, of all publications not confidential in nature, issued by Parliament and the various departments and agencies of the Government of Canada) Dominion Bureau of Statistics, Information Services Division (for statistical publications)	BIBLIOGRAPHY: BOOKS	Nfld.:—Dept. of Education Public Libraries Board P.E.I.:—Dept. of Education Superintendent of Libraries and Director of Adult Education N.S.:—Dept. of Education N.B., Man.:—Dept. of Education Provincial Librarian Que.:—Office of Provincial Secretary Provincial Archives Provincial Library Ont.:—Dept. of Education Director of Public Library Service Sask.:—Provincial Library Legislative Library Alta.:—Dept. of Economic Affairs Library Board Provincial Library and Archives B.C.:—Dept. of Education Provincial Library and Archives Public Library Commission.
	BIRTHS See "Vital Statistics"	
Dept. of National Health and Welfare Dept. of Northern Affairs and National Resources (Yukon and N.W.T.)	BLINDNESS ALLOWANCES	Sources same as for "Old Age Assistance" excepting: P.E.I.:—Director of Blind Persons Allowances B.C.:—Blind Persons Allowances Board
	BROADCASTING See "Radio"	
Central Mortgage and Housing Corporation (NHA financing, house designs, apartment building standards) Canadian Farm Loan Board Canadian Government Specifications Board Canadian Standards Association Dept. of Defence Production Defence Construction (1951) Limited Dept. of Finance (Farm Improvement Loans Act) Dept. of National Health and Welfare Hospital Design Division Dept. of Northern Affairs and National Resources National Parks Branch Northern Administration Branch Northern Canada Power Commission Dept. of Public Works Building Construction Branch Chief Architect and Information Services Dept. of Transport Air Services Construction Branch (airport terminal buildings, etc.) Dept. of Veterans Affairs (Soldier Settlement and Veterans' Land Act) National Research Council Division of Building Research (construction materials, building codes and practice, soil and snow mechanics, housing standards) Dominion Bureau of Statistics	BUILDING CONSTRUCTION	Nfld., N.B.:—Dept. of Public Works P.E.I.:—Dept. of Industry and Natural Resources N.S.:—Dept. of Trade and Industry Que.:—Farm Credit Bureau, Family Housing Division Dept. of Trade and Commerce, Bureau of Statistics Ont.:—Dept. of Labour, Factory Inspection Branch Dept. of Planning and Development, Community Planning Branch Man., Sask.:—Dept. of Labour Alta.:—Dept. of Industries and Labour, Provincial Bureau of Statistics B.C.:—Dept. of Finance, Housing Commissioner Dept. of Labour, Factory Inspection Branch Dept. of Industrial Development, Trade and Commerce, Bureau of Economics and Statistics

<u>Sources for Federal Data</u>	<u>Subject</u>	<u>Sources for Provincial Data</u>
Dept. of Transport Marine Services (secondary canals) St. Lawrence Seaway Authority (St. Lawrence—Great Lakes canals) National Research Council Division of Mechanical Engineer- ing Dominion Bureau of Statistics	CANALS	
Dept. of Trade and Commerce Commodities Branch Dominion Bureau of Statistics	CHEMICALS	
Dept. of Citizenship and Immigration Information Division National Film Board	CITIZENSHIP <i>See also</i> "Population"	
	CIVIL AVIATION <i>See "Aviation"</i>	
Dept. of National Health and Welfare Civil Defence Division	CIVIL DEFENCE	Nfld.:—Dept. of Provincial Affairs P.E.I., Man.:—Office of the Premier N.S.:—Dept. of Provincial Secretary N.B., Alta.:—Depts. of Municipal Affairs Que.:—Dept. of Social Welfare Ont.:—Dept. of Planning and Development, Civil Defence Branch Sask.:—Dept. of Social Welfare, Director of Civil Defence B.C.:—Dept. of Provincial Sec- retary, Provincial Co-ordinator
Dept. of Transport Meteorological Branch, Toronto National Research Council Division of Building Research, (Climatological Atlas of Canada, National Building Code)	CLIMATE	Que.:—Dept. of Lands and Forests, Meteorological Bureau Dept. of Trade and Commerce, Bureau of Statistics B.C.:—Dept. of Agriculture
Dept. of Mines and Technical Sur- veys Geological Survey of Canada Mines Branch Mineral Resources Division Dominion Coal Board Dominion Bureau of Statistics	COAL	N.S., Que., Ont., B.C.:—Depts. of Mines N.B.:—Dept. of Lands and Mines Man.:—Dept. of Mines and Natural Resources, Mines Branch Sask.:—Dept. of Mineral Resources Alta.:—Dept. of Mines and Minerals
Dept. of Justice Director of Investigation and Research Restrictive Trade Practices Com- mission	COMBINES	

Sources for Federal Data

Subject

Sources for Provincial Data

Dept. of Transport
Telecommunications Branch—
radio communications; aviation
radio and marine radio; Govern-
ment telegraph and telephone
services (telegraph and telephone
services in remote areas)
Board of Transport Commissioners
(regulation of certain telegraph
and telephone companies)
Canadian Broadcasting Corporation
(network broadcasting, televi-
sion, and international short-
wave service)
Canadian Overseas Telecommunica-
tion Corporation
Dept. of Northern Affairs and
National Resources
Northern Administration Branch
(wireless communication in the
Yukon and N.W.T.)
National Parks Branch (telephones
in National Parks)
Dept. of Trade and Commerce
Transportation and Trade Services
Division
Dominion Bureau of Statistics

COM-
MUNICATIONS
For Post Office
and Mail
see "Post Office"

Nfld.:—Dept. of Economic Develop-
ment
P.E.I.:—Tourist and Information
Bureau
N.S.:—Board of Commissioners of
Public Utilities
N.B.:—Travel Bureau
Que.:—Dept. of Transportation and
Communications
Ont.:—Municipal Board and Dept.
of Economics, Statistics Branch
Man.:—Manitoba Telephone System
Sask.:—Dept. of Telephones
Saskatchewan Government Tele-
phones
Alta.:—Alberta Government Tele-
phones
B.C.:—Dept. of Railways
RCMP Provincial Headquarters

Central Mortgage and Housing
Corporation
Dept. of National Health and
Welfare (social welfare and
recreation)
Dept. of Northern Affairs and
National Resources
Northern Administration Branch
National Capital Commission
Information Division (general in-
formation on the Plan for the
National Capital of Canada)
National Film Board

COMMUNITY
PLANNING

Nfld.:—Dept. of Municipal Affairs
and Supply
P.E.I.:—Dept. of Industry and
Natural Resources
Dept. of Education, Physical
Fitness Division
N.S.:—Dept. of Municipal Affairs
Dept. of Education, Physical
Fitness Division
N.B.:—Dept. of Education, Physical
Education and Recreational
Branch
Dept. of Municipal Affairs
Que.:—Dept. of Municipal Affairs
Ont.:—Dept. of Planning and De-
velopment, Community Planning
Branch
Dept. of Education, Community
Programs Branch
Man.:—Depts. of Municipal Com-
missioner and Mines and Natural
Resources, Surveys Branch
Dept. of Health and Public
Welfare, Physical Fitness and
Recreation Division
Sask.:—Dept. of Municipal Affairs,
Community Planning Branch
Executive Council, Economic Ad-
visory and Planning Board
Center for Community Studies,
University of Saskatchewan,
Saskatoon
Alta.:—Dept. of Municipal Affairs,
Town and Rural Planning
Branch
B.C.:—Dept. of Industrial Develop-
ment, Trade, and Commerce,
Bureau of Economics and Sta-
tistics
Dept. of Municipal Affairs, Reg-
ional Planning Division
Dept. of Education, Community
Programs Branch
Lower Mainland Regional Plan-
ning Board

Sources for Federal Data	Subject	Sources for Provincial Data
Dept. of Northern Affairs and National Resources National Parks Branch, Canadian Wildlife Service Northern Administration Branch Forestry Branch Dept. of Agriculture Information Division Economics Division Prairie Farm Rehabilitation Administration Maritime Marshlands Rehabilitation Administration Dept. of Fisheries Information and Educational Service National Capital Commission National Film Board	CONSERVATION	Nfld.:—Dept. of Mines and Resources P.E.I.:—Dept. of Industry and Natural Resources N.S., Alta.:—Depts. of Lands and Forests N.B.:—Dept. of Lands and Mines Que.:—Dept. of Lands and Forests Dept. of Game and Fisheries Dept. of Hydraulic Resources Ont.:—Dept. of Lands and Forests Dept. of Planning and Development, Conservation Branch Ontario Agricultural College, Guelph Man.:—Dept. of Mines and Natural Resources Sask.:—Dept. of Natural Resources Dept. of Agriculture, Conservation and Development Branch B.C.:—Dept. of Lands and Forests Dept. of Recreation and Conservation
Privy Council Office Dept. of Secretary of State Dept. of Justice Public Archives	CONSTITUTION	All Provinces except B.C.:—Depts. of Attorney General B.C.:—Provincial Secretary
Dominion Bureau of Statistics	CONSUMER PRICE INDEX <i>See also</i> "Cost of Living"	
Dept. of Agriculture Economics Division Central Mortgage and Housing Corporation (mortgage-lending activities) Dept. of Fisheries Information and Educational Service Dept. of Insurance Dept. of Secretary of State Companies Division	CO-OPERATIVES (including Credit Unions)	Nfld.:—Dept. of Mines and Resources P.E.I.:—Dept. of Agriculture N.S.:—Dept. of Provincial Secretary N.B.:—Dept. of Agriculture Que.:—Dept. of Agriculture Dept. of Trade and Commerce, Bureau of Statistics Ont.:—Dept. of Agriculture, Markets Branch Dept. of Provincial Secretary Dept. of Insurance Man.:—Dept. of Agriculture and Immigration, Co-operative Services Branch Sask.:—Dept. of Co-operation and Co-operative Development Alta.:—Dept. of Industries and Labour B.C.:—Attorney-General's Dept., Registrar of Companies
Dominion Bureau of Statistics (wholesale and retail prices and consumer price index)	COST OF LIVING	Nfld.:—Dept. of Municipal Affairs and Supply Sask.:—Dept. of Labour Alta.:—Dept. of Industries and Labour, Provincial Bureau of Statistics B.C.:—Dept. of Industrial Development, Trade, and Commerce, Bureau of Economics and Statistics

Sources for Federal Data

Subject

Sources for Provincial Data

Canada Council
 Dept. of Citizenship and Immigration
 Information Division (Indians and immigrants)
 Dept. of National Health and Welfare
 Dept. of Northern Affairs and National Resources
 National Parks Branch
 National Museum of Canada
 Northern Administration Branch
 Dept. of Trade and Commerce
 Commodities Branch
 Dept. of Veterans Affairs (veterans only)
 National Gallery of Canada (films, reference library)
 Public Archives
 National Film Board

CREATIVE ARTS
 AND
 HANDICRAFTS

Nfld.:—Dept. of Education
 P.E.I.:—Dept. of Provincial Secretary, Tourist and Information Branch
 Dept. of Education, Physical Fitness Division
 N.S.:—Dept. of Trade and Industry, Handicrafts Division
 Nova Scotia College of Art
 Dept. of Education, Physical Fitness Division
 N.B.:—Dept. of Industry and Development, Handicraft Division
 The New Brunswick Museum
 Dept. of Education, Physical Education and Recreation Branch
 Que.:—Dept. of Agriculture (rural handicrafts)
 Office of Provincial Secretary
 Dept. of Trade and Commerce
 Ont.:—Royal Ontario Museum
 Dept. of Education, Community Programs Branch
 Man.:—Dept. of Agriculture and Immigration (handicrafts)
 Dept. of Health and Public Welfare, Physical Fitness and Recreation Division
 Sask.:—Dept. of Education, Adult Education Division and Fitness and Recreation Division
 Saskatchewan Arts Board
 Alta.:—Dept. of Economic Affairs (cultural activities)
 B.C.:—Provincial Museum (Indian handicrafts)
 Dept. of Education, Community Programs Branch
 Dept. of Industrial Development, Trade, and Commerce

Dept. of Justice
 Clemency Branch
 The Penitentiary Commission
 National Parole Board
 Dept. of National Health and Welfare
 Research and Statistics Division
 National Film Board
 Dominion Bureau of Statistics

CRIME AND
 DELINQUENCY

All Provinces:—Depts. of Attorney General
 Additional:—Nfld., N.S., Alta.:—Depts. of Public Welfare
 P.E.I., B.C.:—Depts. of Health and Welfare
 Que.:—Dept. of Social Welfare
 Dept. of Youth
 Dept. of Trade and Commerce, Bureau of Statistics
 Ont.:—Dept. of Reform Institutions
 Man.:—Dept. of Health and Public Welfare
 Sask.:—Dept. of Social Welfare

See pp. 104-111 of this volume for a list of Crown corporations giving the functions of each and the Cabinet Minister through which each reports to Parliament.

CROWN
 CORPORATIONS

For information with regard to individual Crown corporations apply as follows:—
 Nfld.:—Dept. of Economic Development
 P.E.I.:—Dept. of Industry and Natural Resources
 N.S.:—Dept. of Trade and Industry
 Ont.:—Dept. of Provincial Secretary
 Man.:—Treasury Dept.
 Sask.:—Government Finance Office
 B.C.:—Attorney General's Dept.

Bank of Canada
 Dept. of Finance
 Royal Canadian Mint

CURRENCY

Sources for Federal Data	Subject	Sources for Provincial Data
Dept. of Agriculture Animal Research Institute Dairy Technology Research Institute Dairy Products Division Dept. of Trade and Commerce Agriculture and Fisheries Branch National Film Board Dominion Bureau of Statistics	DAIRYING	Nfld.:—Dept. of Mines and Resources P.E.I., N.S.:—Depts. of Agriculture N.B., Ont., Alta., B.C.:—Depts. of Agriculture, Dairy Branches (also Milk Industry Board of Ont. and Milk Control Board for B.C.) Que.:—Dept. of Agriculture, Dairy Commission Dept. of Trade and Commerce, Bureau of Statistics Man.:—Dept. of Agriculture and Immigration, Milk Control Board, Dairy Branch Sask.:—Dept. of Agriculture, Animal Industry Branch Milk Control Board
	DEATHS See "Vital Statistics"	
Dept. of National Defence Director of Public Relations Directorate of Naval Information Directorate of Public Relations (Army) Directorate of Public Relations (RCAF) Defence Research Board Dept. of Defence Production Canadian Commercial Corporation Defence Construction (1951) Limited Canadian Arsenals Limited Dept. of External Affairs (NATO) Dept. of National Health and Welfare Civil Defence Division	DEFENCE See also "Civil Defence"	
Dept. of Defence Production	DEFENCE PRODUCTION	
Dept. of National Health and Welfare Dept. of Veterans Affairs (war disabled veterans)	DISABLED PERSONS ALLOWANCES	Nfld.:—The Old Age Assistance Board P.E.I., N.B.:—Director of Disabled Persons Allowances N.S.:—Director of Old Age Assistance Que.:—Quebec Social Allowances Commission Ont.:—Dept. of Public Welfare, Welfare Allowance Branch Man.:—The Old Age Assistance and Blind Persons' Allowances Board Sask.:—Dept. of Social Welfare and Rehabilitation, Director of Public Assistance Alta.:—The Pensions Board B.C.:—The Disabled Persons Allowances Board

Sources for Federal Data

Subject

Sources for Provincial Data

Bank of Canada
Central Mortgage and Housing Corporation
Dept. of Agriculture
Economics Division
Dept. of Citizenship and Immigration
Canadian Citizenship Branch
Dept. of Defence Production
Economics and Statistics Branch
Dept. of Fisheries
Dept. of Labour
Economics and Research Branch
Legislation Branch
Dept. of Mines and Technical Surveys
Mineral Resources Division
Dept. of National Health and Welfare
Research and Statistics Division
Dept. of Northern Affairs and National Resources (forest and water resources and resources of Yukon and Northwest Territories)
Administration Services
Forestry Branch
Northern Administration Branch
Water Resources Branch
Dept. of Public Works
Economic Studies Branch
Dept. of Trade and Commerce
Economics Branch
Dept. of Transport
Economics Policy Branch
Fisheries Research Board
Public Archives (early data)
Dominion Bureau of Statistics

**ECONOMIC
AND SOCIAL
RESEARCH**

Nfld.:—Dept. of Economic Development
P.E.I.:—Dept. of Industry and Natural Resources
N.S.:—Dept. of Trade and Industry
Nova Scotia Research Foundation
N.B.:—Dept. of Industry and Development
Que.:—Dept. of Trade and Commerce, Economic Research Bureau, Bureau of Statistics, Industrial Commission Branch
Ont.:—Dept. of Economics, Statistics Branch
Man.:—Dept. of Industry and Commerce
Sask.:—Executive Council, Economic Advisory and Planning Board, Industrial Development Office
Government Finance Office
Dept. of Co-operation and Co-operative Development, Research and Statistical Division
Centre for Community Studies, University of Saskatchewan, Saskatoon
Alta.:—Dept. of Economic Affairs, Director of Industrial Development and Economic Research
B.C.:—Dept. of Industrial Development, Trade, and Commerce, Bureau of Economics and Statistics

Dominion Bureau of Statistics
Canada Council
Canadian Broadcasting Corporation (school broadcasts)
Dept. of Citizenship and Immigration
Information Services (Indians)
Dept. of Finance (university grants)
Dept. of Fisheries
Information and Educational Service
Dept. of Labour
Canadian Vocational Training Branch
Dept. of National Health and Welfare
Dept. of Northern Affairs and National Resources
Northern Administration Branch (N.W.T.)
Dept. of Veterans Affairs (veterans and children of war dead)
National Gallery of Canada (school broadcasts, lectures on art)

EDUCATION
See also
"Motion Pictures"
and "Photographic
Material"

All Provinces:—Depts. of Education (technical, visual, audio and all other phases of education)

Chief Electoral Office

ELECTIONS

Nfld.:—Dept. of Provincial Affairs
P.E.I., N.S.:—Depts. of Provincial Secretary
N.B.:—Dept. of Provincial Secretary-Treasurer
Que.:—Chief Returning-Officer
Ont.:—Attorney-General's Dept., Chief Election Officer
Man., B.C.:—Chief Electoral Officers
Sask., Alta.:—Clerks of the Executive Councils

Sources for Federal Data	Subject	Sources for Provincial Data
Dept. of Northern Affairs and National Resources Water Resources Branch Northern Canada Power Commission Dept. of Trade and Commerce Energy Studies Branch National Research Council Radio and Electrical Engineering Division National Film Board Dominion Bureau of Statistics	ELECTRIC POWER	Nfld.:—Dept. of Economic Development, Power Commission P.E.I.:—Public Utility Commission N.S., Alta.:—Power Commissions N.B.:—New Brunswick Electric Power Commission Que.:—Hydro-Electric Commission Dept. of Hydraulic Resources Dept. of Agriculture, Rural Electrification Bureau Ont.:—The Hydro-Electric Power Commission of Ontario Man.:—Manitoba Hydro Electric Board Dept. of Public Utilities Sask.:—Saskatchewan Power Corporation B.C.:—Dept. of Lands and Forests British Columbia Power Commission Dept. of Industrial Development, Trade, and Commerce, Bureau of Economics and Statistics
Dept. of Labour Economics and Research Branch Civil Service Commission (opportunities for, and conditions of, employment in the Federal Civil Service) Dept. of Citizenship and Immigration Information Division (immigrants) National Employment Service Dominion Bureau of Statistics	EMPLOYMENT	All Provinces:—Depts. of Agriculture (farm labour) Additional:—Nfld., N.S., Man., Sask.:—Depts. of Labour Que.:—Dept. of Labour, Provincial Employment Bureau Ont.:—Dept. of Labour Dept. of Economics, Statistics Branch Alta.:—Dept. of Industries and Labour B.C.:—Dept. of Labour Dept. of Industrial Development, Trade, and Commerce, Bureau of Economics and Statistics
Dept. of Northern Affairs and National Resources Northern Administration Branch (education, welfare, handicrafts, livelihood) National Museum of Canada (historical and archaeological information, handicrafts) Canadian Wildlife Service (wildlife in Canada's North) Dept. of National Health and Welfare (health and hospital services) Royal Canadian Mounted Police (field duties)	ESKIMOS	Nfld.:—Dept. of Public Welfare, Division of Northern Labrador Affairs
Dept. of Trade and Commerce Canadian Government Exhibition Commission Dept. of Agriculture Information Division Dept. of Fisheries Information and Educational Service Dept. of Northern Affairs and National Resources Editorial and Information Division Canadian Government Travel Bureau (sportsmen's shows) National Capital Commission Plan for the National Capital of Canada (exhibits and information) Industrial Design Centre National Gallery of Canada (paintings, etc.) National Film Board (films, photographs)	EXHIBITIONS	Nfld.:—Dept. of Provincial Affairs N.S., N.B.:—Dept. of Agriculture Que.:—Dept. of Agriculture Dept. of Trade and Commerce Office of Provincial Secretary Ont.:—Most Ontario Departments organize exhibitions Man.:—Dept. of Agriculture and Immigration, Extension Service Dept. of Industry and Commerce Sask.:—Dept. of Agriculture Dept. of Travel and Information Alta.:—Dept. of Economic Affairs Dept. of Agriculture B.C.:—Dept. of Agriculture Dept. of Industrial Development, Trade, and Commerce

Sources for Federal Data	Subject	Sources for Provincial Data
Dept. of Mines and Technical Surveys Explosives Division Mines Branch (Explosives Laboratory)	EXPLOSIVES	B.C.—Dept. of Mines
Dept. of External Affairs Information Division Dept. of Trade and Commerce International Economic and Technical Co-operation Division (Colombo Plan) National Film Board	EXTERNAL AFFAIRS	
Dept. of National Health and Welfare Dept. of Citizenship and Immigration (assistance to families entering Canada not yet eligible for family allowances)	FAMILY ALLOWANCES	
Dept. of Agriculture Research Branch Plant Products Division Dept. of Trade and Commerce Agriculture and Fisheries Branch National Film Board Dominion Bureau of Statistics	FIELD CROPS	Nfld.—Dept. of Mines and Resources P.E.I., N.S., N.B.—Depts. of Agriculture Que.—Dept. of Agriculture Dept. of Trade and Commerce, Bureau of Statistics Ont., Alta., B.C.—Depts. of Agriculture, Field Crops Branch Man.—Dept. of Agriculture and Immigration Sask.—Dept. of Agriculture, Plant Industry Branch
Dept. of Finance Bank of Canada Dominion Bureau of Statistics	FINANCE See also "Taxation"	Nfld., B.C.—Depts. of Finance P.E.I., Sask.—Provincial Treasurer N.S.—Dept. of Provincial Treasurer N.B.—Dept. of Provincial Secretary-Treasurer Que.—Dept. of Finance Dept. of Trade and Commerce, Bureau of Statistics Ont.—Provincial Treasurer's Dept. Man., Alta.—Provincial Treasury Depts.
Dept. of Northern Affairs and National Resources Forestry Branch (federal interests) National Parks Branch Northern Administration Branch Board of Transport Commissioners (forest-fire protection along railway lines) Dept. of Public Works Fire Prevention Branch (fire loss statistics) National Research Council Division of Building Research, Fire Research Section National Film Board (films, filmstrips, photographs, in relation to government prevention and conservation programs)	FIRE PREVENTION	All Provinces:—Provincial Fire Marshals (for urban and rural fire losses) Additional: — Nfld.: — Dept. of Mines and Resources N.S., Alta., B.C.—Depts. of Land and Forests N.B.—Dept. of Lands and Mines Que.—Dept. of Lands and Forests Forest Protection Service Dept. of Public Works, Fire Commissioner Ont.—Dept. of Lands and Forests, Forest Protection Division Man.—Dept. of Mines and Natural Resources Dept. of Labour, Fire Commissioner Sask.—Dept. of Natural Resources, Dept. of Labour, Fire Commissioner Dept. of Social Welfare, Civil Defence Branch

Sources for Federal Data	Subject	Sources for Provincial Data
Dept. of Fisheries Information and Educational Service Fisheries Research Board of Canada Dept. of Finance Fisherman's Improvement Loans Dept. of Trade and Commerce Agriculture and Fisheries Branch Dept. of Veterans Affairs (veterans settled as commercial fishermen) Unemployment Insurance Commission (unemployment insurance for fishermen) National Film Board	FISHERIES	Nfld.:—Dept. of Fisheries and Co-operatives P.E.I.:—Dept. of Industry and Natural Resources N.S.:—Dept. of Trade and Industry, Fisheries Division N.B.:—Dept. of Industry and Development, Fisheries Branch Que.:—Dept. of Game and Fisheries Dept. of Trade and Commerce, Bureau of Statistics Ont.:—Dept. of Lands and Forests, Fish and Wildlife Division Man.:—Dept. of Mines and Natural Resources, Game and Fisheries Branch Sask.:—Dept. of Natural Resources, Fisheries Branch Saskatchewan Fish Marketing Service Alta.:—Dept. of Lands and Forests, Fish and Game Branch B.C.:—Dept. of Recreation and Conservation
	FOOD AND DRUGS See "Standards" and "Nutrition"	
	FOREIGN AFFAIRS See "External Affairs"	
Bank of Canada	FOREIGN EXCHANGE	
Dept. of Northern Affairs and National Resources Forestry Branch (federal interests) Dept. of Agriculture Forest Biology Division Dept. of Trade and Commerce Commodities Branch National Film Board Dominion Bureau of Statistics	FOREST RESOURCES	Nfld.:—Dept. of Mines and Resources P.E.I.:—Dept. of Industry and Natural Resources N.S., Que., Ont., Alta., B.C.:—Depts. of Lands and Forests N.B.:—Dept. of Lands and Mines Man.:—Dept. of Mines and Natural Resources, Forestry Branch Sask.:—Dept. of Natural Resources, Forestry Branch
	FRUIT See "Horticulture"	
	FUEL See "Coal", "Oil and Natural Gas", "Forest Resources"	

Sources for Federal Data	Subject	Sources for Provincial Data
Dept. of Agriculture Research Branch (fur production) Production and Marketing Branch (fur grading) Dept. of Trade and Commerce Agriculture and Fisheries Branch Dominion Bureau of Statistics	FUR FARMING See also "Trapping"	Nfld.:—Dept. of Mines and Resources Dept. of Economic Development P.E.I., N.B., Alta., B.C.:—Depts. of Agriculture N.S., Ont.:—Depts. of Lands and Forests Que.:—Dept. of Agriculture Dept. of Trade and Commerce, Bureau of Statistics Man.:—Dept. of Mines and Natural Resources, Game and Fisheries Branch Sask.:—Dept. of Natural Resources Saskatchewan Fur Marketing Service
Dept. of Mines and Technical Surveys Geographical Branch Canadian Board on Geographical Names Dept. of Agriculture Soils Research Institute Dept. of Fisheries Fisheries Research Board of Canada (oceanography) Public Archives National Film Board	GEOGRAPHY	Nfld.:—Dept. of Mines and Resources P.E.I.:—Travel Bureau N.S.:—Dept. of Mines N.B.:—Dept. of Lands and Mines Que.:—Dept. of Lands and Forests Dept. of Trade and Commerce Dept. of Mines Ont.:—Dept. of Lands and Forests, Lands and Surveys Division Man.:—Dept. of Mines and Natural Resources Sask.:—Dept. of Natural Resources Dept. of Travel and Information Alta., B.C.:—Dept. of Lands and Forests
Dept. of Mines and Technical Surveys Geological Survey of Canada	GEOLOGY	Nfld.:—Dept. of Mines and Resources N.S., B.C.:—Depts. of Mines N.B.:—Dept. of Lands and Mines Que.:—Dept. of Mines, Geological Surveys Branch Ont.:—Dept. of Mines, Geological Branch Man.:—Dept. of Mines and Natural Resources, Mines Branch Sask.:—Dept. of Mineral Resources Alta.:—Dept. of Mines and Minerals
Dept. of the Secretary of State (federal-provincial channel of communication) Chief Electoral Office (Electoral Act and voters lists) Dept. of Citizenship and Immigration Information Division Dept. of Northern Affairs and National Resources (Yukon and N.W.T.) Dept. of Public Printing and Stationery (distribution and sale of statutory orders and regulations) Privy Council Office (appointments, orders in council, statutory orders and regulations) Public Archives (early official records)	GOVERNMENT For Senate of Canada, House of Commons and Library of Parliament see "Parliament"	Nfld.:—Dept. of Provincial Affairs P.E.I., N.S., Ont., Man., Sask., Alta., B.C.:—Depts. of Provincial Secretary N.B.:—Dept. of Provincial Secretary-Treasurer Que.:—Office of Provincial Secretary
Dept. of National Health and Welfare Dept. of Northern Affairs and National Resources (N.W.T.) National Film Board Dominion Bureau of Statistics	HEALTH For Health of Veterans see "Veterans Affairs"	Nfld., Que., Ont.:—Depts. of Health P.E.I.:—Dept. of Health and Welfare N.S., Sask., Alta.:—Depts. of Public Health N.B.:—Dept. of Health and Social Services Man.:—Dept. of Health and Public Welfare B.C.:—Dept. of Health and Welfare (general) Dept. of Provincial Secretary (mental hospitals) British Columbia Hospital Insurance Commission

Sources for Federal Data	Subject	Sources for Provincial Data
	HIGHWAYS See "Transportation"	
Public Archives Dept. of National Defence Director of Public Relations Naval Historian Directorate of History (Army) Air Historian Dept. of Northern Affairs and National Resources National Parks Branch (historic sites and monuments) National Museum of Canada Canadian War Museum National Film Board Dominion Bureau of Statistics	HISTORY	Nfld.:—Legislative Library Memorial University Gosling Memorial Library P.E.I.:—Travel Bureau N.S.:—Public Archives N.B.:—Legislative Library Que.:—Office of Provincial Secretary Provincial Archives Provincial Library Ont.:—Legislative Library Dept. of Economics, Statistics Branch Provincial Archivist Man.:—Provincial Library and Ar- chives Sask.:—Legislative Library, Ar- chives Division Alta.:—Archives, Provincial Library Dept. of Economic Affairs, Pub- licity Bureau B.C.:—Dept. of Education, Pro- vincial Librarian and Archivist
Dept. of Agriculture Production and Marketing Branch (grading and inspection) Research Branch Plant Research Institute	HORTICULTURE	Nfld.:—Dept. of Mines and Re- sources P.E.I.:—Dept. of Agriculture N.S., N.B., Alta., B.C.:—Depts. of Agriculture, Horticultural Branches Que.:—Dept. of Agriculture, Fruit Branch Ont.:—Dept. of Agriculture, Agricul- ture and Horticulture Branches Man.:—Dept. of Agriculture and Immigration Sask.:—Dept. of Agriculture, Plant Industry Branch
Dept. of National Health and Welfare Dominion Bureau of Statistics	HOSPITAL INSURANCE	Nfld., P.E.I., Que.:—Depts. of Health N.S.:—Hospital Services Planning Commission N.B., Ont.:—Hospital Services Com- mission Man.:—Hospital Services Plan Sask., Alta.:—Depts. of Public Health B.C.:—Dept. of Health and Welfare
Dept. of National Health and Welfare Dept. of National Defence Office of the Surgeon General (Armed forces hospitals) Dept. of Veterans Affairs (veterans hospitals) Dominion Bureau of Statistics	HOSPITALS	Nfld., Que.:—Depts. of Health P.E.I.:—Dept. of Health and Wel- fare N.S.:—Hospital Services Commission N.B.:—Dept. of Health and Social Services Ont.:—Hospital Services Commis- sion of Ontario Man.:—Dept. of Health and Public Welfare Sask., Alta.:—Depts. of Public Health B.C.:—Dept. of Health and Welfare (general) Dept. of Provincial Secretary (mental hospitals) British Columbia Hospital Insur- ance Commission

Sources for Federal Data	Subject	Sources for Provincial Data
Central Mortgage and Housing Corporation (long-term mortgage loans for new houses; National Housing Act financing; apartment building standards; house designs; mortgage lending activities; insurance of loans) Dept. of Veterans Affairs (home construction assistance for veterans)	HOUSING	Ont.:—Dept. of Planning and Development, Housing Branch Sask.:—Dept. of Social Welfare, Housing Branch
Dept. of Citizenship and Immigration Information Division Dept. of Labour Special Services Branch Dept. of National Health and Welfare Quarantine, Immigration Medical and Sick Mariners Division National Film Board Dominion Bureau of Statistics	IMMIGRATION	P.E.I.:—Dept. of Industry and Natural Resources Ont.:—Dept. of Planning and Development Dept. of Economics, Statistics Branch Man.:—Dept. of Agriculture and Immigration Sask.:—Dept. of Social Welfare Alta.:—Dept. of Economic Affairs
	INCOME TAX See "Taxation"	
Dept. of Citizenship and Immigration Information Division Dept. of Northern Affairs and National Resources Northern Administration Branch National Museum of Canada (historical and archaeological information) Dept. of National Health and Welfare (health and hospital services)	INDIANS	Nfld.:—Dept. of Public Welfare (Indians in Labrador) Que.:—Dept. of Fish and Game (fur preserves) B.C.:—Dept. of Labour, Provincial Advisory Committee on Indian Affairs
National Industrial Design Council National Gallery of Canada (films, reference library, photographic library, exhibitions)	INDUSTRIAL DESIGN	
	INDUSTRIAL DEVELOPMENT See "Manufacturing"	
Dept. of Insurance (Dominion, British and foreign companies, Federal Civil Service insurance) Central Mortgage and Housing Corporation (insures loans made under National Housing Act 1954) Dept. of Labour Annuities Branch Dept. of Trade and Commerce Export Credits Insurance Corporation Dept. of Veterans Affairs Veterans Insurance Branch Dominion Bureau of Statistics (summary statistics of all types of insurance)	INSURANCE— LIFE, FIRE, ETC. For Unemployment Insurance see "Labour"	Nfld.:—Dept. of Provincial Affairs P.E.I., N.S., N.B., Man., Alta., B.C.:—Superintendents of Insurance Que.:—Finance Dept., Insurance Branch Ont.:—Dept. of Insurance Sask.:—Superintendent of Insurance, Government Insurance Office

Sources for Federal Data	Subject	Sources for Provincial Data
Dept. of Mines and Technical Surveys Mines Branch Mineral Resources Division Dept. of Trade and Commerce Commodities Branch Dominion Bureau of Statistics	IRON AND STEEL	Nfld.:—Dept. of Mines and Resources N.S.:—Dept. of Mines Research Foundation N.B.:—Dept. of Lands and Mines Que.:—Dept. of Trade and Commerce, Bureau of Statistics Dept. of Mines Ont.:—Dept. of Planning and Development, Trade and Industry Branch Dept. of Economics, Statistics Branch Man.:—Dept. of Industry and Commerce Sask.:—Dept. of Mineral Resources Alta.:—Dept. of Mines and Minerals Dept. of Economic Affairs B.C.:—Dept. of Mines Dept. of Industrial Development, Trade, and Commerce, Bureau of Economics and Statistics
Dept. of Justice Dominion Bureau of Statistics	JUSTICE	All Provinces:—Depts. of Attorney General
Dept. of Labour Information Branch Labour Gazette Branch Government Annuities Branch Legislation Branch Economics and Research Branch Canada Labour Relations Board Canadian Vocational Training Branch Civilian Rehabilitation Branch Industrial Relations Branch (conciliation of labour disputes, payment of fair wages on government contracts, promotion of labour-management co-operation, fair employment practices) International Labour Organization Branch Special Services Branch Women's Bureau Dept. of National Health and Welfare (occupational health) Dept. of Secretary of State Companies Division National Employment Service Unemployment Insurance Commission Dominion Bureau of Statistics	LABOUR See also "Workmen's Compensation"	Nfld., P.E.I., N.S., N.B., Man., Sask.:—Depts. of Labour Que., Ont.:—Depts. of Labour, Provincial Bureaus of Statistics Alta.:—Dept. of Industries and Labour B.C.:—Dept. of Labour Dept. of Industrial Development, Trade, and Commerce, Bureau of Economics and Statistics
Dept. of Mines and Technical Surveys Surveyor General of Canada Dept. of Citizenship and Immigration Information Division (land settlement) Dept. of Northern Affairs and National Resources Northern Administration Branch (Yukon and N.W.T.) Dept. of Transport Real Estate Branch Dept. of Veterans Affairs Soldier Settlement and Veterans' Land Act Branch	LANDS AND LAND SETTLEMENT	Nfld.:—Dept. of Mines and Resources P.E.I.:—Commissioner of Public Lands N.S.:—Dept. of Agriculture, Land Settlement Board N.B.:—Dept. of Lands and Mines Que.:—Dept. of Lands and Forests Dept. of Colonization Ont., Alta.:—Depts. of Lands and Forests Man.:—Dept. of Mines and Natural Resources, Lands Branch Sask.:—Dept. of Agriculture, Lands Branch Attorney General, Land Titles B.C.:—Dept. of Agriculture, Land Clearing Dept. of Lands and Forests

Sources for Federal Data	Subject	Sources for Provincial Data
Royal Canadian Mounted Police (Enforces Federal Statutes in all parts of Canada; also carries out, on behalf of Attorneys General and under contract, enforcement of the Criminal Code and Provincial Statutes in all provinces except Quebec and Ontario; is the only law-enforcement body in the Yukon and Northwest Territories and assists in the welfare of Eskimos and Indians in these territories.)	LAW ENFORCEMENT	All Provinces:—Depts. of Attorney General
Clerk of the Senate of Canada Clerk of the House of Commons Dept. of Justice Dept. of Northern Affairs and National Resources (Yukon and N.W.T.) Dept. of Public Printing and Stationery (distribution and sale of the Statutes of Canada and separate texts of federal legislation) Privy Council Office For Acts administered by individual Federal Depts., see pp. 111-115 of this volume.	LEGISLATION For Statutory Orders and Regulations see "Government"	All Provinces except Man. and B.C.:—Depts. of Attorney General Man.:—Legislative Council B.C.:—Dept. of Provincial Secretary
	LIBRARIES See "Bibliography: Books"	
Chief Electoral Office (for local referendum under Canada Temperance Act) Dept. of Northern Affairs and National Resources Northern Administration Branch (Yukon and N.W.T.) Dept. of Secretary of State Special Division Dominion Bureau of Statistics	LIQUOR CONTROL	Nfld.:—Dept. of Finance P.E.I.:—Temperance Commission N.S., Que.:—Liquor Commissions N.B., Ont., Alta., B.C.:—Liquor Control Boards Man.:—Liquor Control Commission Sask.:—Liquor Board
Dept. of Agriculture Livestock Division (for production and marketing data) Poultry Division (for production and marketing data) Health of Animals Division (for administration of disease control regulations, meat inspection, and research in animal diseases) Animal Research Institute Dept. of Trade and Commerce Agriculture and Fisheries Branch National Film Board Dominion Bureau of Statistics	LIVESTOCK	Nfld.:—Dept. of Mines and Resources P.E.I., N.B., Ont.:—Depts. of Agriculture, Livestock Branches N.S.:—Dept. of Agriculture, Animal Husbandry Branch Que.:—Dept. of Agriculture, Animal Husbandry Branch Dept. of Trade and Commerce, Bureau of Statistics Man.:—Dept. of Agriculture and Immigration, Livestock Branch Sask.:—Dept. of Agriculture, Animal Industry Branch Alta., B.C.:—Provincial Bureaus of Statistics Depts. of Agriculture, Livestock Branches

Sources for Federal Data	Subject	Sources for Provincial Data
Dept. of Northern Affairs and National Resources Forestry Branch (federal interests) Dept. of Trade and Commerce Commodities Branch National Film Board (films, filmstrips, photographs, in relation to departmental conservation and development programs) Dominion Bureau of Statistics	LUMBERING	Nfld.:—Dept. of Mines and Resources P.E.I.:—Dept. of Industry and Natural Resources N.S., Que., Ont., Alta.:—Depts. of Lands and Forests N.B.:—Dept. of Lands and Mines Man.:—Dept. of Mines and Natural Resources, Forestry Branch Sask.:—Dept. of Natural Resources, Forestry Branch Industrial Development Office Saskatchewan Timber Board B.C.:—Dept. of Lands and Forests Dept. of Industrial Development, Trade, and Commerce, Bureau of Economics and Statistics
Dominion Bureau of Statistics Bank of Canada Industrial Development Bank Dept. of Defence Production (for defence items) Dept. of Secretary of State Companies Division Dept. of Trade and Commerce Commodities Branch Industrial Development Branch National Research Council Canadian Patents and Development Limited (utilization of new scientific processes) National Film Board	MANUFACTURING See also "Crown Corporations"	Nfld.:—Dept. of Economic Development P.E.I.:—Dept. of Industry and Natural Resources N.S., B.C.:—Depts. of Trade and Industry N.B.:—Dept. of Industry and Development Que.:—Dept. of Trade and Commerce, Bureau of Statistics Ont.:—Dept. of Planning and Development, Trade and Industry Branch Dept. of Economics, Statistics Branch Man.:—Dept. of Industry and Commerce Sask.:—Economic Advisory and Planning Board Industrial Development Office Government Finance Office Dept. of Co-operation and Co-operative Development, Trade and Business Information Services Alta.:—Dept. of Economic Affairs Bureau of Statistics B.C.:—Dept. of Industrial Development, Trade, and Commerce, Bureau of Economics and Statistics
Dept. of Mines and Technical Surveys Surveys and Mapping Branch Geological Survey of Canada Geographical Branch Dept. of Agriculture (soil survey and economic survey maps) Dept. of Fisheries Information and Educational Service (fisheries maps) Dept. of Transport (meteorological maps) National Research Council Division of Building Research Climatological Atlas of Canada Public Archives (maps relating to history and cartography) Dominion Bureau of Statistics (economic and census maps)	MAPS AND CHARTS	Nfld.:—Dept. of Mines and Resources P.E.I.:—Dept. of Public Works and Highways N.S.:—Dept. of Mines Research Foundation N.B.:—Dept. of Lands and Mines Que.:—Dept. of Lands and Forests Dept. of Mines Dept. of Trade and Commerce, Cartography Service Dept. of Agriculture Ont.:—Dept. of Lands and Forests Dept. of Mines Man.:—Dept. of Mines and Natural Resources, Surveys Branch Sask.:—Dept. of Natural Resources Dept. of Travel and Information Alta., B.C.:—Depts. of Lands and Forests
	MARRIAGES See "Vital Statistics"	

Sources for Federal Data	Subject	Sources for Provincial Data
Dept. of Agriculture Economics Division (co-operatives) Dominion Bureau of Statistics	MERCHANDISING	Man.:—Dept. of Industry and Commerce Sask.:—Industrial Development Office Alta.:—Dept. of Industries and Labour B.C.:—Dept. of Industrial Development, Trade, and Commerce, Bureau of Economics and Statistics
Dept. of Mines and Technical Surveys Mines Branch Geological Survey of Canada Mineral Resources Division Dept. of Trade and Commerce Commodities Branch Dominion Bureau of Statistics (for production data)	METALS (other than Iron and Steel)	Nfld.:—Dept. of Mines and Resources N.S., Que., Ont.:—Depts. of Mines N.B.:—Dept. of Lands and Mines Man.:—Dept. of Mines and Natural Resources, Mines Branch Sask.:—Dept. of Mineral Resources Alta.:—Dept. of Mines and Minerals B.C.:—Dept. of Industrial Development, Trade, and Commerce, Bureau of Economics and Statistics
	METEOROLOGY See "Weather"	
Dept. of Mines and Technical Surveys Geological Survey of Canada Mines Branch Mineral Resources Division Dept. of Northern Affairs and National Resources (Yukon and N.W.T.) Dominion Bureau of Statistics (for production data)	MINING AND MINERALS	Nfld.:—Dept. of Mines and Resources N.S., Que., Ont., B.C.:—Depts. of Mines N.B.:—Dept. of Lands and Mines Man.:—Dept. of Mines and Natural Resources, Mines Branch Sask.:—Dept. of Mineral Resources Alta.:—Dept. of Mines and Minerals
National Film Board <i>(Produces documentary films, news-reels and short subjects for theatrical, non-theatrical and television distribution; film-strips and photographs for informational, educational and archival purposes; other visual materials devoted to the interpretation of the Canadian scene to audiences both at home and abroad; and maintains a large film preview library for the benefit of government departments and other official bodies.)</i> National Gallery of Canada <i>(library of films on art)</i>	MOTION PICTURES	Nfld., P.E.I., N.B., Ont.:—Buy such films but do not produce them N.S., Que., Alta., B.C.:—Produce educational or informational films Man.:—Dept. of Industry and Commerce Sask.:—Dept. of Travel and Information Dept. of Education, Visual Education Branch Dept. of Labour (film censor) Alta.:—Dept. of Economic Affairs Photographic Branch B.C.:—Dept. of Recreation and Conservation <i>All provinces have Motion Picture Censorship Boards. Details may be obtained by application to the province concerned: Depts. of Education and Travel, Provincial Censorship Boards and National Film Board Regional Offices.</i>
Dominion Bureau of Statistics Public Finance and Transportation Division	MUNICIPAL AFFAIRS	Nfld.:—Dept. of Municipal Affairs and Supply P.E.I.:—Dept. of Industry and Natural Resources N.S., N.B., Que., Ont., Sask., Alta., B.C.:—Depts. of Municipal Affairs Man.:—Dept. of Municipal Commissioner

Sources for Federal Data	Subject	Sources for Provincial Data
National Gallery of Canada (paintings, sculpture, etc.) Dept. of Northern Affairs and National Resources National Museum of Canada Canadian War Museum National Historic Parks Museums Laurier House, Ottawa (historical) Public Archives	MUSEUMS	Nfld.:—Dept. of Provincial Affairs N.S.:—Nova Scotia Museum of Fine Arts, Public Archives of Nova Scotia, Provincial Museum of Nova Scotia, Halifax N.B.:—New Brunswick Museum, Saint John Que.:—The Archives, Musée de la Province de Québec, Quebec Commercial and Industrial Museum of Montreal Ont.:—Royal Ontario Museum (including Archaeology, Geology, Mineralogy, Palæontology and Zoology) and Ontario Archives, Toronto Man.:—Manitoba Museum, Winnipeg Sask.:—Dept. of Natural Resources, Provincial Museum Alta.:—Provincial Archives, Legislative Building, Edmonton B.C.:—Provincial Museum of Natural History and Anthropology, Provincial Archives (including Helmcken House), Victoria Also provincial universities of Sask., Alta., and B.C.
Dominion Bureau of Statistics	NATIONAL ACCOUNTS	
Dept. of Citizenship and Immigration Information Division	NATURALIZATION See also "Population"	
Dept. of Transport Marine Services (aids to marine navigation; secondary canals) Telecommunications Branch (radio aids to navigation) Canadian Maritime Commission Dept. of Mines and Technical Surveys Hydrographic Service Legal Surveys and Aeronautical Charts Division Dept. of Public Works (acquisition, construction and improvement of harbour and river works, incl. construction and operation of graving docks and marine engineering generally). Harbours and Rivers Engineering Branch Information Services National Harbours Board National Research Council Radio and Electrical Engineering Division (applications of radar to navigation) Division of Mechanical Engineering (model—testing basin and hydraulic models) St. Lawrence Seaway Authority (St. Lawrence-Great Lakes canals)	NAVIGATION	

Sources for Federal Data	Subject	Sources for Provincial Data
Dept. of National Health and Welfare Nutrition Division Dept. of Agriculture Consumer Section Dept. of Fisheries Inspection and Consumer Service	NUTRITION	Nfld., Que., Ont.:—Depts. of Health P.E.I., B.C.:—Depts. of Health and Welfare N.S.:—Dept. of Public Health N.B.:—Dept. of Health and Social Services Man.:—Dept. of Health and Public Welfare Sask.:—Dept. of Public Health, Nutrition Division Alta.:—Dept. of Agriculture, Nutritionist
	OCCUPATIONAL INFORMATION See "Employment"	
Dept. of Mines and Technical Surveys Geological Survey of Canada Mineral Resources Division Mines Branch Dept. of Defence Production Dept. of Northern Affairs and National Resources (Yukon and N.W.T.) Dept. of Trade and Commerce Energy Studies Branch Standards Branch Northern Ontario Pipe Line Crown Corporation Dominion Bureau of Statistics	OIL AND NATURAL GAS	Nfld.:—Dept. of Mines and Resources N.S., Ont., B.C.:—Depts. of Mines N.B.:—Dept. of Lands and Mines Man.:—Dept. of Mines and Natural Resources, Mines Branch Sask.:—Dept. of Mineral Resources Saskatchewan Power Corporation Alta.:—Dept. of Mines and Minerals Bureau of Statistics
Dept. of National Health and Welfare Dept. of Northern Affairs and National Resources (Yukon and N.W.T.)	OLD AGE ASSISTANCE	Nfld., N.S., B.C.:—Old Age Assistance Boards P.E.I.:—Director of Old Age Assistance N.B.:—The Old Age and Blind Assistance Board Que.:—Quebec Social Allowances Commission Ont.:—Director of Welfare Allowances Man.:—The Old Age Assistance and Blind Persons' Allowances Board Sask.:—Director of Public Assistance Alta.:—The Pensions Board
Dept. of National Health and Welfare	OLD AGE SECURITY PENSIONS	
Dept. of Northern Affairs and National Resources National Parks Branch National Capital Commission National Film Board	PARKS	Nfld.:—Dept. of Mines and Resources N.S., Ont., Alta.:—Depts. of Lands and Forests N.B.:—Dept. of Lands and Mines Que.:—Dept. of Game and Fisheries Man.:—Dept. of Mines and Natural Resources, Forestry Branch Sask.:—Dept. of Travel and Information B.C.:—Dept. of Recreation and Conservation

Sources for Federal Data	Subject	Sources for Provincial Data
The Senate The House of Commons Library of Parliament Privy Council Office	PARLIAMENT	Nfld.:—Dept. of Provincial Affairs P.E.I., N.B., Man., Sask., Alta., B.C.:—Legislative Assemblies N.S., Ont.:—Houses of Assembly Que.:—Legislative Council Legislative Assembly
Dept. of Secretary of State Patent and Copyright Office Canadian Patents and Development Limited (licences available on patents from Government labora- tories, etc.) National Library (handles all copy- right books) Trade Marks Office	PATENTS, COPY- RIGHTS AND TRADE MARKS	
National Film Board Dept. of Mines and Technical Surveys Editorial and Information Division The National Air Photographic Library Dept. of Northern Affairs and National Resources Editorial and Information Division Public Archives (historical)	PHOTOGRAPHIC MATERIAL <i>See also</i> "Motion Pictures" and "Tourist Trade"	Photographs are available from many provincial government depart- ments in all provinces.
Dominion Bureau of Statistics (for all census population statistics) Dept. of Citizenship and Immigration Information Division (Indians and immigrants) Dept. of Northern Affairs and National Resources Northern Administration Branch (for Eskimos) Public Archives (early census and settlement records)	POPULATION	Nfld.:—Dept. of Health P.E.I.:—Travel Bureau N.S.:—Dept. of Public Health, Vital Statistics Branch N.B.:—Dept. of Health and Social Services, Vital Statistics Branch Que.:—Dept. of Health, Vital Statistics Branch Dept. of Trade and Commerce, Bureau of Statistics Ont.:—Dept. of Economics, Sta- tistics Branch Man.:—Dept. of Industry and Com- merce Dept. of Municipal Affairs Sask.:—Dept. of Public Health, Vital Statistics Branch Legislative Library Alta.:—Dept. of Industries and Labour, Provincial Statistician B.C.:—Dept. of Health and Welfare, Director of Vital Statistics Dept. of Industrial Development, Trade, and Commerce, Bureau of Economics and Statistics
Post Office Department Administration Branch (general postal information, postage rates, both domestic and foreign, etc.) Transportation Branch (air, land and railway mail services) Financial Branch (information regarding money orders, savings bank, philatelic services, etc.) Operations Branch (information regarding postal service to the public and hours of service) Personnel Branch (personnel, train- ing, employee services)	POST OFFICE	

Sources for Federal Data	Subject	Sources for Provincial Data
Dept. of Agriculture Information Division (for general information) Research Branch Poultry Division (for marketing data, breeding programs, hatchery regulations, etc.) Health of Animals Division (for poultry diseases) Dept. of Trade and Commerce Agriculture and Fisheries Branch Dominion Bureau of Statistics	POULTRY	Nfld.:—Dept. of Mines and Resources P.E.I., N.S.:—Depts. of Agriculture N.B., Alta., B.C.:—Depts. of Agriculture, Poultry Branches Que.:—Dept. of Agriculture Poultry Division Dept. of Trade and Commerce, Bureau of Statistics Ont.:—Ontario Agricultural College (Guelph), Poultry Division Man.:—Dept. of Agriculture and Immigration Sask.:—Dept. of Agriculture, Animal Industry Branch
	POWER See "Electric Power"	
Dept. of Secretary of State Special Division	PRECEDENCE AND CEREMONIAL	Nfld.:—Dept. of Provincial Affairs
Dominion Bureau of Statistics Dept. of Agriculture Marketing Service (prices of farm products) Agricultural Prices Support Board Dept. of Fisheries Fisheries Prices Support Board	PRICES	Man.:—Dept. of Industry and Commerce Sask.:—Economic Advisory and Planning Board B.C.:—Dept. of Industrial Development, Trade, and Commerce, Bureau of Economics and Statistics
Dept. of Secretary of State Registration Division Public Archives (early records)	PUBLIC DOCUMENTS (Commissions of Appointment, Proclamations, Federal Land Grants, etc.)	Ont.:—Dept. of Provincial Secretary Sask.:—Provincial Secretary
	PUBLIC HEALTH See "Health"	
Dominion Bureau of Statistics	PUBLIC UTILITIES See also "Electric Power"	Nfld.:—Public Utilities Board P.E.I., B.C.:—Public Utilities Commissions N.S., N.B.:—Boards of Commissioners of Public Utilities Que.:—Public Service Board Quebec Hydro-Electric Commission Ont.:—Ontario Municipal Board The Hydro-Electric Power Commission of Ontario Ontario Telephone Authority Ontario Fuel Board Man.:—Dept. of Public Utilities Sask.:—Government Finance Office Saskatchewan Government Telephones Saskatchewan Power Corporation Alta.:—Board of Public Utilities Commissioners Natural Gas Utilities Board

Sources for Federal Data	Subject	Sources for Provincial Data
	PUBLIC WELFARE See "Welfare"	
Dept. of Public Works Information Services Dept. of Labour Industrial Relations Branch (fair wages) Dept. of Transport Marine and Air Services St. Lawrence Seaway Authority (St. Lawrence Seaway and Power Project)	PUBLIC WORKS	All Provinces: —Depts. of Public Works Ont.: —The Hydro-Electric Power Commission of Ontario (St. Lawrence Power Project)
Canadian Broadcasting Corporation (national broadcasting in Canada, including radio and television, international short-wave service) Board of Broadcast Governors (regulations for control of programs and licensing of stations) Dept. of Transport Telecommunications Branch (all matters affecting licences and facilities) Canadian Overseas Telecommunication Corporation National Research Council Radio and Electrical Engineering Division (radio science and its application to industry)	RADIO	Sask.: —Dept. of Natural Resources, Communications Division Alta.: —Radio CKUA, Edmonton, operated by Dept. of Telephones
	RAILWAYS See "Transportation"	
Dept. of Northern Affairs and National Resources Water Resources Branch (for Yukon and N.W.T. and federal interests in the provinces) Northern Canada Power Commission	RECONSTRUCTION AND DEVELOPMENT	Nfld.: —Dept. of Economic Development P.E.I.: —Dept. of Industry and Natural Resources N.S.: —Depts. of Municipal Affairs, and Trade and Industry N.B.: —Dept. of Industry and Development Que.: —Depts. of Lands and Forests, Labour, Roads, Social Welfare, and Youth Dept. of Trade and Commerce, Industrial Commission Branch Ont.: —Dept. of Planning and Development Man.: —Dept. of Industry and Commerce Sask.: —Dept. of Social Welfare, Rehabilitation Division Alta.: —Dept. of Economic Affairs B.C.: —Dept. of Industrial Development, Trade, and Commerce, Bureau of Economics and Statistics
Dept. of Northern Affairs and National Resources National Parks Branch Canadian Government Travel Bureau Northern Administration Branch (for Y.T. and N.W.T.) Dept. of National Health and Welfare National Film Board	RECREATION See also "Health"	P.E.I., N.S., N.B., Que., Ont., Sask.: —Depts. of Education Man.: —Dept. of Health and Public Welfare Dept. of Industry and Commerce, Bureau of Travel and Publicity Alta.: —Dept. of Economic Affairs, Community Recreation Bureau B.C.: —Dept. of Recreation and Conservation

Sources for Federal Data	Subject	Sources for Provincial Data
Dept. of Veterans Affairs Dept. of Citizenship and Immigration Information Division (Indians) Dept. of Labour Civilian Rehabilitation Branch Dept. of National Health and Welfare Dept. of Northern Affairs and National Resources Northern Administration Branch (for Eskimos) National Film Board	REHABILITATION	P.E.I.:—Dept. of Education, Co-ordinator of Rehabilitation Branch N.S.:—Dept. of Public Health, Provincial Rehabilitation Co-ordinator N.B.:—Dept. of Health and Social Services, Provincial Co-ordinator of Rehabilitation Que.:—Dept. of Social Welfare Dept. of Youth Dept. of Labour Man.:—Dept. of Health and Public Welfare, Provincial Co-ordinator of Rehabilitation Services Sask.:—Dept. of Social Welfare, Rehabilitation Division Alta.:—Dept. of Public Welfare, Co-ordinator of Rehabilitation of Disabled Persons B.C.:—Dept. of Health and Welfare, Rehabilitation Co-ordinator
Canada Council (humanities and social sciences)	RESEARCH See also "Economic and Social Research" and "Scientific Research"	
National Research Council Laboratory Divisions (for investigations in applied biology, building research, pure and applied chemistry, mechanical engineering, aeronautical research, pure and applied physics, radio and electrical engineering) Regional Laboratories at Saskatoon, Sask., and Halifax, N.S. Division of Medical Research (scholarships and grants-in-aid for graduate research in the universities) (Inquiries for general research information should be addressed to the Technical Information Service.) Canadian Patents and Development Limited (licences available on patents derived from government research, etc.) Dept. of Agriculture (conducts broad programs of basic and applied research on all aspects of agriculture and forest biology) Dept. of Mines and Technical Surveys Geological Survey of Canada Mines Branch Dominion Observatories Branch Dept. of National Defence Defence Research Board, Directorate of Public Relations Dept. of National Health and Welfare Dept. of Northern Affairs and National Resources Forestry Branch (federal interests) National Museum of Canada National Parks Branch (wildlife) Northern Research Co-ordination Centre Dept. of Transport (aviation, radio, meteorology, navigation) Dept. of Veterans Affairs Treatment Services Branch (medical research) Fisheries Research Board of Canada	SCIENTIFIC RESEARCH	Nfld.:—Dept. of Economic Development P.E.I.:—Dept. of Industry and Natural Resources N.S.:—Nova Scotia Research Foundation N.B.:—Dept. of Industry and Development, Research and Development Division Que.:—Dept. of Trade and Commerce, Scientific Research Bureau Ont.:—Ontario Research Foundation Man.:—Various Depts., such as Health and Welfare, Mines and Natural Resources, Agriculture and Immigration, Industry and Commerce Sask.:—Saskatchewan Research Council Alta.:—Alberta Research Council B.C.:—Dept. of Industrial Development, Trade, and Commerce Research Council

Sources for Federal DataSubjectSources for Provincial Data

SENATE
See "Parliament"

SMALL LOANS
AND
MONEY-LENDERS
See "Banking"

SOCIAL
SECURITY
See
"Family
Allowances"
"Blindness
Allowances"
"Old Age
Assistance"
"Old Age
Security"
"Disabled Persons
Allowances"
"Workmen's
Compensation"
"Labour"
"Unemployment"
"Veterans Affairs"
"Economic and
Social Research"

SOCIAL WELFARE
See "Welfare"

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Dept. of Trade and Commerce Standards Branch (for inquiries on electricity and gas inspection, weights and measures, precious metals marking, commodity standards and national trade mark matters) Canadian Government Specifications Board (specifications for pur- chasing) Canadian Standards Association Central Mortgage and Housing Corporation apartment building standards (NHA financed) Dept. of Agriculture (for inquiries on standards for meat, canned food, fruit, honey, maple pro- ducts, vegetables, dairy products, poultry, etc.) Dept. of Fisheries (standards of fish products) Dept. of National Health and Welfare (for standards and methods of control of quality or potency of food and drugs) Dept. of Transport (standards in radio frequencies, standards in steamship inspection) National Research Council Applied Physics Division (funda- mental physical and electrical standards) Division of Building Research, Specifications Section	STANDARDS AND SPECIFICATIONS	
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	SUCCESSION DUTIES See "Taxation"	
Dept. of National Revenue Taxation Division (income tax and succession duties statistics and information) Customs and Excise Division (customs, excise and sales tax statistics and information) Dept. of Finance (Budget papers reviewing taxation policy, changes in rates, revenue fore- casts)	TAXATION	Nfld., Que.:—Depts. of Finance P.E.I.:—Provincial Treasurer N.S.:—Dept. of Provincial Treasurer N.B.:—Dept. of Provincial Sec- retary-Treasurer Ont.:—Provincial Treasurer's Dept. Man., Sask.:—Provincial Treasury Depts. Alta.:—Provincial Treasurer's Dept., Provincial Secretary B.C.:—Dept. of Finance, Surveyor of Taxes
	TELEGRAPHS AND TELEPHONES See "Communications"	
Board of Broadcast Governors Canadian Broadcasting Corporation Dept. of Transport Telecommunications Branch National Research Council National Film Board	TELEVISION See also "Radio"	

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Dept. of Mines and Technical Surveys Surveys and Mapping Branch National Research Council Applied Physics Division (photogrammetric research)	TOPOGRAPHY	Nfld.:—Dept. of Mines and Resources N.S.:—Dept. of Mines, Nova Scotia Research Foundation N.B.:—Dept. of Lands and Mines Que.:—Dept. of Lands and Forests Dept. of Trade and Commerce, Cartography Service Dept. of Mines Ont.:—Dept. of Lands and Forests, Surveys Branch Man.:—Dept. of Mines and Natural Resources Sask.:—Dept. of Natural Resources Alta., B.C.:—Depts. of Lands and Forests
Dept. of Northern Affairs and National Resources National Parks Branch Canadian Government Travel Bureau Dept. of Trade and Commerce Canadian Government Exhibition Commission (displays) National Film Board Dominion Bureau of Statistics	TOURIST TRADE	Nfld.:—Tourist Development Board P.E.I.:—Dept. of Provincial Secretary, Tourist and Information Branch N.S.:—Dept. of Trade and Industry, Travel Bureau N.B.:—New Brunswick Travel Bureau Que.:—Provincial Tourist Bureau Ont.:—Dept. of Travel and Publicity Man.:—Dept. of Industry and Commerce Sask.:—Dept. of Travel and Information, Tourist Branch Alta.:—Dept. of Economic Affairs, Alberta Travel Bureau B.C.:—Dept. of Recreation and Conservation, Travel Branch
Dept. of Trade and Commerce Agriculture and Fisheries Branch Canadian Government Exhibition Commission Commodities Branch (for exports, imports, transportation, etc.) Energy Studies Branch Export Credits Insurance Corporation Industrial Development Branch International Economic and Technical Co-operation Division (Colombo Plan) International Trade Relations Branch Small Business Branch Standards Branch (weights and measures) Trade Commissioner Service Trade Publicity Branch Dept. of Secretary of State Companies Division National Film Board (films, filmstrips, photographs, for exhibition publicity purposes) Dominion Bureau of Statistics	TRADE	For incorporation of companies under provincial law, address Provincial Secretaries except B.C., where Attorney-General's Department is the authority. Nfld.:—Dept. of Economic Development P.E.I.:—Dept. of Industry and Natural Resources N.S.:—Dept. of Trade and Industry N.B.:—Dept. of Industry and Development Que.:—Dept. of Trade and Commerce Ont.:—Dept. of Planning and Development, Trade and Industry Branch Man.:—Dept. of Industry and Commerce Sask.:—Dept. of Co-operation and Co-operative Development, Trade and Business Information Services Saskatchewan Marketing Services Industrial Development Office Alta.:—Dept. of Industries and Labour Dept. of Economic Affairs B.C.:—Dept. of Industrial Development, Trade, and Commerce
Dept. of the Secretary of State Bureau for Translations	TRANSLATION	Que.:—Legislative Assembly Bureau for Translations

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Dept. of Transport Information and Editorial Bureau Canadian Maritime Commission National Harbours Board St. Lawrence Seaway Authority Trans-Canada Air Lines Air Transport Board (regulation of commercial air services) Board of Transport Commissioners (regulations re construction and operation of railways; construction and protection of highway crossings; rates of railways, express companies and certain inland water carriers; rates with respect to communications, international bridges and tunnels; issuing of licences to certain inland carriers; regulations re construction of oil and gas pipelines; statistics) Dept. of National Defence Directorate of Public Relations (Army) (for maintenance of Alaska Highway) Dept. of National Health and Welfare Civil Aviation Medicine Division Dept. of Northern Affairs and National Resources ("Roads to Resources" program) National Parks Branch (for highways in National Parks) Dept. of Public Works (Trans-Canada Highway, roads and bridges in the North and in National Parks and international and inter-provincial bridges) Development Engineering Branch and Information Services Dept. of Trade and Commerce Transportation and Trade Services Division Northern Transportation Company Limited (Crown) National Film Board Dominion Bureau of Statistics	TRANSPORTATION	Nfld.:—Dept. of Highways P.E.I.:—Dept. of Public Works and Highways N.S.:—Dept. of Highways N.B.:—Dept. of Public Works, Highways Branch Que.:—Dept. of Transportation and Communications Ont.:—Dept. of Highways, Ontario Northland Transportation Commission Man.:—Dept. of Public Works, Highways Branch Dept. of Mines and Natural Resources Dept. of Public Utilities Dept. of Industry and Commerce Sask.:—Dept. of Highways and Transportation Saskatchewan Transportation Company Alta.:—Dept. of Railways and Telephones Dept. of Highways, Highway Traffic Board B.C.:—Dept. of Railways Public Utility Commission Dept. of Highways Dept. of Industrial Development, Trade and Commerce, Bureau of Economics and Statistics
Dept. of Northern Affairs and National Resources Northern Administration Branch (Yukon and N.W.T.) National Parks Branch Dept. of Citizenship and Immigration Information Division (Indians) Dominion Bureau of Statistics (for general trapping statistics)	TRAPPING See also "Fur Farming"	Nfld.:—Dept. of Mines and Resources P.E.I.:—Dept. of Industry and Natural Resources N.S., Ont., Alta.:—Depts. of Lands and Forests N.B.:—Dept. of Lands and Mines Que.:—Dept. of Game and Fish Man.:—Dept. of Mines and Natural Resources Sask.:—Dept. of Natural Resources, Fur Marketing Service B.C.:—Dept. of Recreation and Conservation
Dept. of Labour Economics and Research Branch Unemployment Insurance Commission Dominion Bureau of Statistics	UNEMPLOYMENT	Nfld., N.S., Que., Sask.:—Depts. of Labour Ont.:—Dept. of Public Welfare Dept. of Economics, Statistics Branch B.C.:—Dept. of Industrial Development, Trade, and Commerce, Bureau of Economics and Statistics

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Central Mortgage and Housing Corporation	URBAN REDEVELOPMENT	
Dept. of Veterans Affairs (general information, rehabilitation, welfare, training, treatment, land settlement, gratuities, re-establishment credit, education of children of war dead, insurance, business and professional loans, records of service, war graves and medals) Canadian Pension Commission (the Pension Act and Civilian War Pensions and Allowances Act) Dept. of Citizenship and Immigration Indian Affairs Branch (for Indian veterans) Dept. of Finance (veterans business and professional loans) Dept. of Labour (unemployment insurance and war veteran allowances, reinstatement, vocational training) War Veterans Allowance Board (the War Veterans Allowance Act)	VETERANS AFFAIRS	P.E.I.:—Provincial Secretary N.S.:—Dept. of Public Welfare N.B.:—Dept. of Health and Social Services Que.:—Dept. of Social Welfare Ont.:—Dept. of Public Welfare, Soldiers Aid Commission Sask.:—Dept. of Social Welfare, Rehabilitation Division Alta.:—Veterans Welfare Advisory Commission B.C.:—Dept. of Provincial Secretary
Dominion Bureau of Statistics Dept. of Citizenship and Immigration Information Division (Indians and immigrants) Dept. of Northern Affairs and National Resources Northern Administration Branch (Yukon and N.W.T.) Public Archives (early census records)	VITAL STATISTICS	Nfld., Que., B.C.:—Depts. of Health P.E.I.:—Registrar of Births, Deaths and Marriages N.S., Alta.:—Depts. of Public Health Registrars General N.B.:—Dept. of Health and Social Service Ont.:—Dept. of Provincial Secretary, Vital Statistics Branch Man.:—Dept. of Health and Public Welfare Sask.:—Dept. of Public Health, Vital Statistics Branch
Dept. of Labour Industrial Relations Branch (fair wages) Economics and Research Branch Legislation Branch Dominion Bureau of Statistics	WAGES (including Working Conditions)	All Provinces except Alta.:—Depts. of Labour Alta.:—Dept. of Industries and Labour Additional:—B.C.:—Dept. of Industrial Development, Trade, and Commerce, Bureau of Economics and Statistics

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Dept. of Northern Affairs and National Resources Water Resources Branch (for Yukon and N.W.T. and federal interests in provinces) Dept. of Agriculture Prairie Farm Rehabilitation Administration Branch Dept. of Fisheries (where fishery resources are affected) Dept. of Mines and Technical Surveys Mines Branch (industrial waters) Geological Survey of Canada (ground-water studies) National Film Board	WATER RESOURCES	Nfld.:—Dept. of Mines and Resources N.S.:—Nova Scotia Power Commission N.B.:—Dept. of Lands and Mines Que.:—Dept. of Hydraulic Resources Ont.:—Depts. of Planning and Development; Lands and Forests Ontario Water Resources Commission Man.:—Dept. of Mines and Natural Resources, Water Resources Branch Sask., Alta.:—Depts. of Agriculture B.C.:—Dept. of Lands and Forests
Dept. of Transport Meteorological Branch, Toronto National Research Council Division of Building Research Climatological Atlas of Canada	WEATHER	
Dept. of National Health and Welfare Dept. of Citizenship and Immigration Information Division (Indians) Dept. of Labour Government Annuities Branch Dept. of Northern Affairs and National Resources Northern Administration Branch (for Eskimos) National Advisory Committee on the Rehabilitation of Disabled Persons Northwest Territories Council, Ottawa Unemployment Insurance Commission Yukon Territorial Council, Whitehorse National Film Board Dominion Bureau of Statistics	WELFARE For Welfare of Veterans see "Veterans Affairs"	Nfld., N.S., Ont., Alta.:—Depts. of Public Welfare P.E.I., B.C.:—Depts. of Health and Welfare N.B.:—Dept. of Health and Social Services Que.:—Dept. of Social Welfare Dept. of Youth Man.:—Dept. of Health and Public Welfare Sask.:—Dept. of Social Welfare
Dept. of Northern Affairs and National Resources National Parks Branch Canadian Wildlife Service National Museum of Canada Commissioner of Yukon Territory, Whitehorse Dept. of Fisheries Information and Educational Service National Film Board	WILDLIFE	Nfld.:—Dept. of Mines and Resources P.E.I.:—Dept. of Industry and Natural Resources N.S., Ont., Alta.:—Depts. of Lands and Forests N.B.:—Dept. of Lands and Mines Que.:—Dept. of Game and Fish Man.:—Dept. of Mines and Natural Resources Sask.:—Dept. of Natural Resources, Wildlife Branch B.C.:—Dept. of Recreation and Conservation
Dept. of Labour Government Employees' Compensation Branch Merchant Seamen Compensation Board	WORKMEN'S COMPENSATION	Provincial Workmen's Compensation Boards at: Nfld.:—St. John's P.E.I.:—Charlottetown N.S.:—Halifax; N.B.:—Saint John Ont.:—Toronto; Man.:—Winnipeg Sask.:—Regina; Alta.:—Edmonton B.C.:—Vancouver Que.:—Workmen's Compensation Commission

PART II.—SPECIAL MATERIAL PUBLISHED IN FORMER EDITIONS OF THE CANADA YEAR BOOK

It is not possible to include in any single edition of the Year Book all articles and descriptive text of previous editions. Therefore the following list has been compiled as an index to such miscellaneous material and special articles as are not repeated in the present edition. This list links up the 1959 Year Book with its predecessors in respect of matters that have not been subject to wide change. Those Sections of Chapters, such as "Population", which are automatically revived when later census material is made available and to which adequate references are made in the text, are not listed unless they are in the nature of special contributions. The latest published article on each subject is shown, except when an earlier article includes material not repeated in the later one. When an article covers more than one subject it is listed under each appropriate heading.

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PART III.—REGISTER OF OFFICIAL APPOINTMENTS

The following list of official appointments continues up to Sept. 15, 1959, the list published in the 1957-58 Year Book at pp. 1253-1263.

Governor General.—1959. *Sept. 15*, Major-General George P. Vanier, D.S.O., M.C., C.D.: to be Governor General of Canada, *vice* the Right Honourable Vincent Massey, C.H.

Governor General's Staff.—1958. *Apr. 7*, Commodore D. L. Raymond, C.D., R.C.N.: to be Honorary Aide-de-Camp. *July 7*, Acting Commander R. M. Black, R.C.N. (R): to be Honorary Aide-de-Camp. *Aug. 6*, Lieutenant Colonel J. A. Berthiaume: to be Honorary Aide-de-Camp. *Oct. 15*, Superintendent Cortlandt Benfield Macdonell of the RCMP, Victoria, B.C., Inspector Gerald Robert Engle of the RCMP, Prince George, B.C., Inspector Herbert Edward Bloxham of the RCMP, Prince Rupert, B.C., and Superintendent William Harrison Graham Nevin of the RCMP, Vancouver, B.C.: to be Honorary Aides-de-Camp. *Oct. 27*, Commander (S) J. L. Neveu, R.C.N.: to be Honorary Aide-de-Camp. **1959.**—*Aug. 14*, Lt. Col. R. S. Graham, C.D.: to be Honorary Aide-de-Camp.

Queen's Honorary Physicians, Surgeons, Dental Surgeons and Nursing Sisters.—1958. *June 1*, Surgeon Commodore E. H. Lee, C.D., B.Sc., M.D., Q.H.P., Royal Canadian Navy, Brigadier S. G. U. Shier, O.B.E., C.D., M.D., Q.H.P., Royal Canadian Army Medical Corps, and Air Commodore A. A. G. Corbet, E.D., C.D., B.A., M.D.C.M., F.A.M., Q.H.P., Royal Canadian Air Force: to be Queen's Honorary Physicians for tenure of office. Surgeon Commander M.D. Young, C.D., Royal Canadian Navy (Reserve), Colonel J. A. Noble, O.B.E., M.D., F.R.C.S. (Ed), F.R.C.S. (C), Royal Canadian Army Medical Corps Militia, Group Captain J. A. Sullivan, M.B., Royal Canadian Air Force Supplementary Reserve, and Wing Commander J. L. E. La Rochelle, A.D.C., M.D., Royal Canadian Air Force Auxiliary: to be Queen's Honorary Surgeons for two years. Lieutenant Commander (M.N.) M. E. Nesbitt, C.D., Q.H.N.S., Royal Canadian Navy, Major E. E. Andrews, A.R.R.C., C.D., O.H.N.S., Royal Canadian Army Medical Corps, and Squadron Leader M. C. McArthur, C.D., Royal Canadian Air Force: to be Queen's Honorary Nursing Sisters for tenure of office. Brigadier E. M. Wansbrough, O.B.E., M.M., E.D., C.D., O.H.D.S., F.I.C.D., F.A.C.D., Royal Canadian Dental Corps, Colonel K. M. Baird, O.B.E., C.D., F.I.C.D., Royal Canadian Dental Corps, and Colonel G. B. Shillington, C.D., F.I.C.D., Royal Canadian Dental Corps: to be Queen's Honorary Dental Surgeons for tenure of office. Colonel J. P. Whyte, E.D., F.I.C.D., Royal Canadian Dental Corps: to be Queen's Honorary Dental Surgeon for two years.

Lieutenant-Governors.—1958. *May 22*, Joseph Leonard O'Brien, of South Nelson, N.B.: to be Lieutenant-Governor of the Province of New Brunswick, effective on June 6, 1958.

Queen's Privy Council.—1958. *May 12*, Henri Courtemanche of Mont Laurier, Que.: to be a member and Secretary of State of Canada, Raymond Joseph Michael O'Hurley of St. Gilles, Que.: to be a member and Minister of Defence Production. **1959.** *Aug. 20*, David James Walker of Toronto, Ont.: to be a member and Minister of Public Works. Joseph-Pierre-Albert Sévigny of Westmount, Que.: to be a member and Associate Minister of National Defence.

Cabinet Ministers.—1958. *May 12*, Hon. Ellen Louks Fairclough, a member of the Queen's Privy Council for Canada: to be Minister of Citizenship and Immigration. Henri Courtemanche: to be Secretary of State of Canada. Raymond Joseph Michael O'Hurley: to be Minister of Defence Production. **1959.** *June 4*, Hon. Howard Charles Green, a member of the Queen's Privy Council for Canada: to be Secretary of State for External Affairs. *Aug. 20*, David James Walker: to be a member of the Queen's Privy Council for Canada and Minister of Public Works. Joseph-Pierre-Albert Sévigny: to be a member of the Queen's Privy Council for Canada and Associate Minister of National Defence.

Senators.—1959. *Jan. 15*, John Alexander Buchanan: to be a member of the Senate and a Senator for the Province of Alberta. John G. Higgins, Q.C.: to be a member of the Senate and a Senator for the Province of Newfoundland. John Hnatshyn, Q.C.: to be a member of the Senate and a Senator for the Province of Saskatchewan.

Parliamentary Secretaries.—1959, *Aug. 20*, Wallace B. Nesbitt, M.P., to be Parliamentary Secretary to the Secretary of State for External Affairs, for a period of 12 months, effective Sept. 1, 1959.

Deputy Ministers.—1958. *May 29*, John Hascall, Ottawa, Ont.: to be Deputy Minister of Trade and Commerce. *June 24*, James Alan Roberts, Oakville, Ont.: to be the Associate Deputy Minister of Trade and Commerce. *Oct. 15*, Norman Alexander Robertson: to be Under Secretary of State for External Affairs, effective Oct. 20, 1958.

Diplomatic Appointments.—1958. *June 5*, Pierre Dupuy, C.M.G.: to be Ambassador of Canada at Paris, France. *June 26*, Theodore Francis Moorhouse Newton: to be Ambassador Extraordinary and Plenipotentiary of Canada to Indonesia. Alfred John Pick: to be Ambassador Extraordinary and Plenipotentiary of Canada to Peru. *Sept. 25*, Charles-Pierre Hébert: to be Ambassador Extraordinary and Plenipotentiary of Canada to the Netherlands. Jules Léger: to be Ambassador and Permanent Representative of Canada to the North Atlantic Council and concurrently the Representative of Canada to the Organization for European Economic Co-operation, Paris, France. Paul-André Beaulieu: to be Ambassador Extraordinary and Plenipotentiary of Canada to Lebanon. John Benjamin Clark Watkins: to be Ambassador Extraordinary and Plenipotentiary of Canada to Denmark. Arnold Cantwell Smith: to be Ambassador Extraordinary and Plenipotentiary of Canada to the United Arab Republic. *Oct. 2*, Léon Mayrand: to be Ambassador Extraordinary and Plenipotentiary of Canada to Italy. Sydney David Pierce: to be Ambassador Extraordinary and Plenipotentiary of Canada to Belgium and concurrently Envoy Extraordinary and Minister Plenipotentiary of Canada to Luxembourg. *Oct. 22*, Louis-Eugène Couillard: to be Ambassador Extraordinary and Plenipotentiary of Canada to Venezuela. Miss Blanche Margaret Meagher: to be Ambassador Extraordinary and Plenipotentiary of Canada to Israel. *Nov. 5*, Richard Plant Bower: to be Ambassador Extraordinary and Plenipotentiary of Canada to Argentina. *Dec. 17*, Robert A. D. Ford: to be Ambassador Extraordinary and Plenipotentiary of Canada to Yugoslavia. **1959.** *Jan. 9*, George Bernard Summers: to be Minister Extraordinary and Plenipotentiary of Canada to Iran. *Jan. 21*, Arnold Danford Patrick Heeney, Q.C.: to be Ambassador Extraordinary and Plenipotentiary of Canada to the United States of

America, effective Feb. 3, 1959. *Apr. 14*, Jean Bruchési: to be ambassador Extraordinary and Plenipotentiary of Canada to Spain. Jean Morin: to be Ambassador Extraordinary and Plenipotentiary of Canada to Columbia. *Aug. 24*, Jean-Antoine Chapdelaine: to be Ambassador Extraordinary and Plenipotentiary of Canada to Brazil.

Judicial Appointments

Higher Courts.—1958. *May 12*, Alexander Campbell Des Brisay, Q.C.: to be the Chief Justice of British Columbia. *June 19*, S. H. S. Hughes, Q.C., of Welland, Ont.: to be a Judge of the Supreme Court of Ontario and a member of the High Court of Justice for Ontario, and *ex officio* a member of the Court of Appeal for Ontario. *Sept. 29*, W. J. West, Q.C.: to be a Judge of the Appeal Division of the Supreme Court of New Brunswick, and also a Judge of the Court of Divorce and Matrimonial Causes of the Province of New Brunswick, effective Nov. 1, 1958. *Oct. 1*, Kenneth J. Matheson, Q.C.: to be Registrar of the Supreme Court of Canada. *Oct. 7*, Stanley N. Schatz, Q.C.: to be a Judge of the Supreme Court of Ontario and a member of the High Court of Justice for Ontario, and *ex officio* a member of the Court of Appeal for Ontario. George T. Walsh, Q.C.: to be a Judge of the Supreme Court of Ontario and a member of the High Court of Justice for Ontario, and *ex officio* a member of the Court of Appeal for Ontario. Alexandre Taché, Q.C.: to be a Puisne Judge of the Superior Court for the District of Hull, Labelle and Pontiac in the Province of Quebec. *Oct. 15*, Paul Miquelon, Q.C.: to be a Puisne Judge of the Superior Court for the District of Quebec in the Province of Quebec. *Oct. 16*, Frank H. Patterson, Q.C.: to be a Judge of the Supreme Court of Nova Scotia and a Judge of the Court for Divorce and Matrimonial Causes of the Province of Nova Scotia. *Dec. 29*, Albany M. Robichaud, Q.C.: to be a Judge of the Queen's Bench Division of the Supreme Court of New Brunswick. **1959.** *Jan. 8*, S. Bruce Smith, Q.C., of Edmonton, Alta.: to be a Judge of the Supreme Court of Alberta and a member of the Trial Division of the Supreme Court of Alberta, and *ex officio* a member of the Appellate Division of the said Court. *Feb. 19*, C. C. Miller, Q.C.: to be a Judge of the Court of Queen's Bench for Manitoba. *May 12*, Robert S. Furlong, Q.C.: to be Chief Justice of the Supreme Court of Newfoundland. *June 18*, R. L. Brownridge, Q.C., of Moose Jaw, Sask.: to be a Judge of Her Majesty's Court of Queen's Bench for Saskatchewan. *July 9*, T. G. Norris, Q.C., of Vancouver, B.C.: to be a Judge of the Supreme Court of British Columbia. David Verchere, Q.C., of Kamloops, B.C.: to be a Judge of the Supreme Court of British Columbia. *Aug. 14*, Hon. Léon Casgrain, a Puisne Judge of the Superior Court for the District of Quebec in the Province of Quebec: to be a Puisne Judge of the Superior Court for the District of Rimouski in the Province of Quebec. Jean Blais, Q.C., of Quebec City, Que.: to be a Puisne Judge of the Superior Court for the District of Quebec in the Province of Quebec. Maurice Cousineau, Q.C., of Montreal, Que.: to be a Puisne Judge of the Superior Court for the District of Montreal in the Province of Quebec. Pierre Gobeil, Q.C., of Malbaie, Que.: to be a Puisne Judge of the Superior Court for the District of Chicoutimi in the Province of Quebec. *Aug. 18*, J. V. H. Milvain, Q.C., of Calgary, Alta.: to be a Judge of the Supreme Court of Alberta and a member of the Trial Division of the Supreme Court of Alberta, and *ex officio* a member of the Appellate Division of the said Court. M. E. Manning, Q.C., of Edmonton, Alta.: to be a Judge of the Supreme Court of Alberta and a member of the Trial Division of the Supreme Court of Alberta, and *ex officio* a member of the Appellate Division of the said Court.

County and District Courts.—1958. *June 19*, John Parker, Barrister-at-Law, of Yellowknife, N.W.T.: to be Judge of the Territorial Court of the Yukon Territory. *Nov. 12*, His Honour Henry Joseph Michael Donley, Judge of the District Court of the District of Rainy River in the Province of Ontario: to be a Junior Judge of the County Court of the County of York in the said Province. E. L. Weaver, Q.C.: to be a Junior Judge of the County Court of the County of York in the Province of Ontario. J. A. Sweet, Q.C.: to be a Junior Judge of the County Court of the County of Wentworth in the Province of Ontario, and a Local Judge of the High Court of Justice for Ontario. *Nov. 27*, The Right Honourable James L. Ilsley, Chief Justice of Nova Scotia: to be Deputy Judge in Admiralty

of the Exchequer Court of Canada in and for the Admiralty District of the Province of Nova Scotia. *Dec. 11*, D. F. MacLaren, Q.C., of Barrie, Ont.: to be Junior Judge of the County Court of the County of Simcoe in the said Province, and a Local Judge of the High Court of Justice for Ontario. P. J. McAndrew, Q.C., of Sudbury, Ont.: to be Junior Judge of the District Court of the District of Thunder Bay in the said Province, and a Local Judge of the High Court of Justice for Ontario. H. J. Reynolds, Q.C., of North Bay, Ont.: to be Junior Judge of the District Court of the District of Algoma in the said Province and a Local Judge of the High Court of Justice for Ontario. *Dec. 24*, Arthur Beaumont, Q.C., of Lethbridge, Alta.: to be a Judge of the District Court of the District of Southern Alberta in the said Province, and a Local Judge of the Supreme Court of Alberta. *Dec. 29*, Each of the following Judges, being Judges of the District Courts of the Judicial Districts of Saskatchewan, namely, His Honour John Murton Hanbridge, His Honour Richard Berkett Mills, His Honour Joseph Henry McFadden, His Honour Vincent Reynolds Smith, His Honour Bamm David Hogarth, His Honour Robert Erie Nay, His Honour Peter J. Hooze, His Honour Michael Stechishin, His Honour John Wilfred Thompson, His Honour John Ross MacDonald, His Honour Georges Hebert, His Honour Anthony Benedict Gerein, His Honour Henry Adelbert Rutherford, His Honour Harold Walpole Pope, His Honour William George Ernest Campbell, His Honour John Everett Friesen and His Honour Herbert Elwood Keown: to be a Judge of the District Court for Saskatchewan, effective Jan. 2, 1959. **1959.** *Jan. 29*, The Honourable Mr. Justice John Howard Sissons, Judge of the Territorial Court for the Northwest Territories: to be a Deputy Judge of the Territorial Court for the Yukon Territory from Jan. 29, 1959, to June 30, 1959. *May 20*, Lawrence A. McLennon, Q.C., of Kenora, Ont.: to be a Judge of the District Court of the District of Kenora in the said Province, and a Local Judge of the High Court of Justice for Ontario. *June 18*, Arthur R. Willmott, Q.C., of Cobourg, Ont.: to be Judge for the County and District Courts of the Counties and Districts of Ontario, and a Local Judge of the High Court of Justice for Ontario. Albert R. Hugill, Q.C., of Sault Ste. Marie, Ont.: to be Judge of the District Court of the District of Rainy River in the said Province, and a Local Judge of the High Court of Justice for Ontario. *July 16*, Hon. John Howard Sissons, Judge of the Territorial Court for the Northwest Territories: to be a Deputy Judge of the Territorial Court for the Yukon Territory until Dec. 30, 1959. *July 30*, R. Clifford Levy, Q.C., Bridgewater, N.S.: to be Judge of the County Court of District Number Two in the said Province, effective Aug. 1, 1959.

Courts under Canadian Citizenship Act.—1958. *May 1*, Constable Allan Glen Elliott, Royal Canadian Mounted Police Detachment, Fort Vermilion, Alta., Corporal Roy Chester Shaw, Royal Canadian Mounted Police Detachment, Fort Chipewyan, Alta., and William Corran, Justice of the Peace, Cassiar, B.C.: to act as Courts for the purposes of the Canadian Citizenship Act. *June 5*, Corporal Valdemar Harold Christensen, Royal Canadian Mounted Police Detachment, Uranium City, Sask., and Corporal Thomas Lawrence John Carter, Royal Canadian Mounted Police Detachment, Lynn Lake, Man.: to act as Courts for the purposes of the Canadian Citizenship Act. *July 24*, Ronald Arnold Hodgkinson, Northern Affairs Officer, Fort Chimo, Que., and Robert L'Amoreaux Kennedy, Northern Affairs Officer, Churchill, Man.: to act as Courts for the purposes of the Canadian Citizenship Act. *Sept. 11*, Constable Ian Duncan McSporran, Royal Canadian Mounted Police Detachment, Port Radium, Northwest Territories: to act as a Court for the purposes of the Canadian Citizenship Act; each of the Courts set out below to act as a Court for the purposes of the said Act—Magistrate's Court, Springdale, Nfld., Magistrate's Court, Harbour Main, Nfld., *Oct. 23*, Richard Sheehy, Barrister and Solicitor, Elliot Lake, Ont.: to act as a Court for the purposes of the Canadian Citizenship Act. **1959.** *Mar. 25*, Beamer William Hopkins, Q.C., of Hamilton, Ont.: to act as a Court for the purposes of the Canadian Citizenship Act, in and for the Province, for a term of seven years, effective Apr. 15, 1959. *June 18*, Constable Francis Charles

Wilson Minty, Royal Canadian Mounted Police Detachment, Tahsis, B.C., and Corporal Richard Gordon Graham, Royal Canadian Mounted Police Detachment, Alert Bay, B.C.: to act as a Court for the purposes of the Canadian Citizenship Act. *July 16*, the following persons to act as a Court for the purposes of the Canadian Citizenship Act: A/Corporal Alvin Arthur Stupich, Royal Canadian Mounted Police Detachment, Lynn Lake, Man.; Corporal Claude Lawrence Restoule, Royal Canadian Mounted Police Detachment, Mayo, Yukon Territory; Acting Commander (SB) John Wilson Scott, Assistant Judge Advocate General, Canadian Joint Staff, London, England; and Major Leslie LeRoy England, Deputy Judge Advocate, Canadian Infantry Brigade, Soest, Germany.

Miscellaneous.—1958. *Mar. 4*, Hon. Antonin Galipeault, Chief Justice of the Court of Queen's Bench in and for the Province of Quebec: to be Administrator of the Government of the Province of Quebec during the absence, illness or other inability of the Lieutenant-Governor. *Mar. 29*, Armand Proulx, Q.C.: to be a Commissioner to investigate charges of political partisanship against Maurice Croteau, of South Nicolet, Nicolet-Yamaska County, Que. *Apr. 11*, C. T. S. Evans, Q.C., of Bradford: to be, pursuant to the Inquiries Act, a Commissioner to investigate charges of political partisanship against G. F. Roberts of Camp Borden, Ont. *Apr. 15*, Hon. Cornelius H. O'Halloran, a Justice of Appeal of British Columbia: to be the Administrator to execute the office and functions of Lieutenant-Governor of British Columbia during the absence, illness or other inability of the Lieutenant-Governor. *Apr. 23*, D. S. Smith, Division of Applied Physics, National Research Council; Dr. B. A. Gingras, Division of Applied Chemistry, National Research Council, and W. L. Chase, Department of Mines and Technical Surveys: to be Assay Commissioners to examine and test coins of the currency of Canada. *May 22*, Allen Tedd Jordan, Chief Mining Engineer of the Mining and Lands Division of the Department of Northern Affairs and National Resources: to be a Deputy Inspector of Explosives. *June 12*, Maurice Bourbeau, Assistant Prothonotary of the Superior Court at Trois Rivières, Que.: to be Official Receiver for Bankruptcy Division No. 5 of the District of Quebec, *vice* Adelard Provencher, resigned. Darrall Stanley Collins, Barrister, an employee of the Department of Northern Affairs and National Resources: to be Registrar of the Yukon Land Registration District, *vice* Frank Gramani Smith. *June 24*, Hon. Alexander Campbell Des Brisay, Chief Justice of British Columbia: to be the Administrator of the Government of the Province of British Columbia during the absence, illness or other inability of the Lieutenant-Governor. *July 4*, Thomas Antle and Edgar Newman: to be Commissioners for the Pilotage District of Botwood, Nfld., *vice* A. N. Antle, deceased, and A. P. Carter, resigned. The following persons to be the Pilotage Authority for the Pilotage District of Pugwash, N.S.: D. M. Macauley, W. I. Mundle, M. A. Gillis, Ainsley J. Allen and Murray MacLeod. *Aug. 7*, Kenneth D. McRae, District Registrar of the Supreme Court and Registrar in Bankruptcy: to be Official Receiver for Bankruptcy Division No. 5, of the District of British Columbia, *vice* H. C. Irving, resigned; and Henry Napier Middleton, Registrar of the Supreme Court: to be Official Receiver for Bankruptcy Division No. 1, of the District of British Columbia, *vice* Andrew Thompson, resigned. *Aug. 21*, H. M. Brent, Q.C., of Cobourg, Ont.: to be a Commissioner to investigate charges of political partisanship against R. T. Love and Robert James Denike, both of Cobourg, Ont. *Sept. 4*, Hon. John Doull, a Judge of the Supreme Court of Nova Scotia: to be the Administrator of Nova Scotia during the absence, illness or other inability of the Lieutenant-Governor. *Sept. 11*, Arthur Parkes, Toronto, H. A. Sledge, Montreal, and Ernest Wiberg, Toronto: to be Inspectors of Machinery and of Hulls and Equipment of Steamships at the places set out with respect to each person, and to be Examiners of Engineers. *Sept. 18*, Lucien Thinel, Q.C., St. Jérôme, Que.: to be a Commissioner to investigate charges of political partisanship against André Beaupré, Ste. Thérèse de Blainville, Que. *Oct. 29*, Frank Gramani Smith: to be Registrar of Land Titles for the Northwest Territories Land Registration District. *Nov. 20*, William Harry Cardy, Local Registrar of the Supreme Court: to

be Official Receiver for Bankruptcy Division No. 14, of the District of Ontario, *vice* W. Roy Dixon, resigned. Howard Hicks Warrell, Local Registrar of the Supreme Court: to be Official Receiver for Bankruptcy Division No. 16 of the District of Ontario, *vice* W. L. Warrell, resigned. *Dec. 3*, Donald T. Elliott, Local Master of the Supreme Court of Ontario and Local Registrar: to be Official Receiver for Bankruptcy Division No. 12 of the District of Ontario, *vice* William G. Pugsley, resigned. Donald MacEwan Egner, Local Registrar of the Supreme Court, Clerk of the County Court and Registrar of the Surrogate Court: to be Official Receiver for Bankruptcy Division No. 5 of the District of Ontario, *vice* Gordon Tennent, deceased. *Dec. 22*, Réal Letellier, Deputy Prothonotary of the Superior Court and Registrar in Bankruptcy: to be Official Receiver for Bankruptcy Division No. 9, of the District of Quebec, *vice* Raoul Boissonneault, resigned. **1959.** *Jan. 29*, The Right Honourable J. L. Ilesley, Chief Justice of Nova Scotia: to be Administrator of Nova Scotia and to execute the office and functions of Lieutenant-Governor of Nova Scotia during the absence, illness or other inability of the Lieutenant-Governor. *Feb. 13*, Miss Dorothy Leggatt, Barrister: to be a Commissioner to investigate charges of political partisanship against John Richard of Escuminac, Northumberland County, N.B. Jacques Lavallée, Registrar in Bankruptcy: to be Official Receiver for Bankruptcy Division No. 8 of the District of Quebec, *vice* Gaston Allard, resigned. *Mar. 25*, Alexander Jardine Reeve of Whitehorse, Yukon Territory, civil servant: to be Deputy Registrar of Titles for the Yukon Land Registration District, *vice* Frank Herbert Murphy, resigned. *Apr. 2*, Douglas H. MacFarlane, Clerk of the County Court of Moncton, N.B.: to be Official Receiver for Bankruptcy Division No. 4, of the District of New Brunswick, *vice* Brian G. Savage, resigned. *Apr. 9*, Roch Roy: to be a Commissioner to investigate charges of political partisanship against Roland Lantin of Pabos Mills, Que. *Apr. 23*, Dr. A. G. Mungall, Division of Applied Physics, National Research Council; D. S. Russell, Division of Applied Chemistry, National Research Council; and G. H. Faye, Department of Mines and Technical Surveys: to be Assay Commissioners to examine and test coins of the currency of Canada struck at the Royal Canadian Mint during the year 1958. *Apr. 30*, William Dale Duncan, Local Registrar of the Court of Queen's Bench, Moose Jaw, Sask.: to be Official Receiver for Bankruptcy Division No. 3, of the District of Saskatchewan, *vice* Alfred C. L. Villars, resigned. *May 13*, Herbert Anscomb, Victoria, B.C., Archibald H. Bolch, Ottawa, Ont., René Gobeil, Quebec, Que., M. A. MacPherson, Sr., Regina, Sask., Howard Mann, Moncton, N.B., The Honourable Charles P. McTague, Toronto, Ont., and Arnold Platt, Lethbridge, Alta.: to be Commissioners under Part I of the Inquiries Act to inquire into and report upon the problems relating to railway transportation in Canada; the Honourable Charles P. McTague to be Chairman of the Commission. *May 21*, The Honourable Roland A. Ritchie, Puisne Judge of the Supreme Court of Canada: to be a Deputy to His Excellency the Governor General. *May 28*, Gordon Francis Butterwick, Deputy Clerk of the Supreme Court, Calgary, Alta.: to be official Receiver for Bankruptcy Division No. 2 of the District of Alberta, *vice* Walter Kingsley Jull, Q.C., resigned. *June 4*, Marshall E. Manning, Edmonton, Alta., W. D. Gainer, Edmonton, Alta., and John Anderson-Thompson, Yellowknife, N.W.T.: to be Commissioners under Part I of the Inquiries Act to inquire into and report upon the respective merits of the alternate routes which might be followed by a railway line to be built from northern Alberta into the southern portion of the District of Mackenzie, N.W.T.; Marshall E. Manning to be Chairman of the Commission. *June 18*, Roland Bussièrès, Roberval, Que., Prothonotary of the Superior Court and Registrar in Bankruptcy: to be Official Receiver for Bankruptcy Division No. 9, of the District of Quebec, *vice* Réal Letellier, resigned. Russel Alfred Rockerbie and Allan Robert Corrigan, employees in the Regina Laboratory of the Royal Canadian Mounted Police, appointed as duly qualified analysts

for the purposes of the Opium and Narcotic Drug Act. *July 16*, Hon. Robert S. Furlong, Chief Justice of the Province of Newfoundland: to be Administrator to execute the office and functions of the Lieutenant-Governor of Newfoundland during the absence, illness or other inability of the Lieutenant-Governor. *July 22*, Paul-Emile Montreuil, Deputy Clerk of the Magistrate's Court, Quebec City, Que.: to be Registrar of the Exchequer Court on its Admiralty side for the Quebec Registry Division of the Quebec Admiralty District, *vice* Albert F. Racette, resigned. *July 30*, Jean-Paul Dionne, Prothonotary of the Superior Court and Registrar in Bankruptcy, New Carlisle, Que.: to be official Receiver for Bankruptcy Division No. 11 of the District of Quebec, *vice* Joseph Patrick Leopold Flynn, resigned. *Aug. 20*, Adolphe Roy of Quebec City, Que.: to be a Commissioner to investigate charges of political partisanship against Mrs. Yvonne R. Drouin, Postmistress, of St. Malachie Station, Que.

Government Appointments to Miscellaneous Boards, Commissions, etc.

Air Transport Board.—1959. *Feb. 10*, Paul Davoud: to be a member and also Chairman of the Board, effective Mar. 1, 1959.

Army Benevolent Fund Board.—1958. *Apr. 28*, Lieutenant-General John Carl Murchie, C.B., C.B.E.: to be a member and Chairman for a further term of four years from May 4, 1958.

Belleville Harbour Commissioners.—1958. *July 17*, Harry Rollins and G. H. Trill, both of Belleville, Ont.: to be Commissioners, *vice* A. H. Ketcheson and Herbert McCabe, resigned.

Board of Broadcast Governors.—1958. *Nov. 10*, Pursuant to Section 3 of the Broadcasting Act, the following persons to be members of the Board: *Full-time Members*—Dr. Andrew Stewart, Edmonton, Alta., Roger Duhamel, Montreal, Que., Carlyle Allison, Winnipeg, Man.; *Part-time Members*—Joseph F. Brown, Vancouver, B.C., Dr. Mabel G. Connell, Prince Albert, Sask., Dr. Emlyn Davies, Toronto, Ont., Dr. Eugene Forsey, Ottawa, Ont., Edward A. Dunlop, Toronto, Ont., Dr. Guy Hudon, Quebec, Que., Ivan Sabourin, Iberville, Que., Mrs. R. G. Gilbride, Montreal West, Que., Dr. Colin B. MacKay, Fredericton, N.B., Roy Des Barres Duchemin, Sydney, N.S., J. David Stewart, Charlottetown, P.E.I., Robert Stafford Furlong, St. John's, Nfld. Dr. Andrew Stewart to be Chairman of the Board and Roger Duhamel to be Vice-Chairman thereof.

Board of Transport Commissioners for Canada.—1958. *Aug. 19*, Roderick Kerr, Q. C., General Counsel of the Board of Transport Commissioners for Canada: to be a member and Assistant Chief Commissioner of the Board, effective Nov. 8, 1958, *vice* William Hugh Masson Wardhope, Q.C. *Sept. 22*, Roderick Kerr, Q.C., General Counsel of the Board of Transport Commissioners for Canada: to be a Commissioner *pro hac vice* for the period Oct. 6 to Nov. 8, 1958. *Oct. 3*, Sidney Bruce Smith, Q.C.: to be a member and Chief Commissioner of the Board, effective Jan. 1, 1959, *vice* Clarence Day Shepard, Q.C. resigned, effective as of the same date. *Oct. 27*, Roderick Kerr, Q.C.: to be Chief Commissioner of the Board, effective Jan. 1, 1959, *vice* Clarence Shepard, Q.C., resigned. **1959.** *Jan. 12*, Herbert Henry Griffin, Victoria, B.C.: to be a member and Assistant Chief Commissioner of the Board, effective Jan. 19, 1959. *Mar. 19*, John Miller Woodard of Montreal, Que.: to be a member, effective May 20, 1959. *July 16*, William R. Irwin of Calgary, Alta.: to be a member, effective Aug. 1, 1959.

Canada Council.—1959. *May 14*, L. W. Brockington, Toronto, Ont., Samuel Bronfman, Montreal, Que., Mrs. Margaret Harvey, Victoria, B.C., Emile Tellier, Trois Rivières, Que., and Gerald Winter, St. John's, Nfld.: to be members. *May 19*, Frank Lynch-Staunton, Landbreck, Alta.: to be a member.

Canadian Broadcasting Corporation.—1958. *Nov. 10*, The following persons to be members: *President*—J. Alphonse Ouimet, Ottawa, Ont.; *Vice-President*—Ernest L. Bushnell, Ottawa, Ont. *Directors*—Mrs. Gertrude Alexandra Carter, Salmon Arm, B.C., Mrs. C. Armstrong, Calgary, Alta., Dr. William Lewis Morton, Winnipeg, Man., Mrs. Kate Aitken, Toronto, Ont., Charles W. Leeson, Stratford, Ont., Raymond Dupuis, Montreal, Que., Robert Lionel Dunsmore, Montreal, Que., R. Whidden Ganong, St. Stephen, N.B., and Dr. C. B. Lumsden, Wolfville, N.S.

Canadian Farm Loan Board.—1958. *June 24*, Hugh H. Shannon of Clifford, Ont.: to be a member for a period of five years, *vice* Cameron McTaggart, resigned.

Canadian Maritime Commission.—1959. *Aug. 1*, Alexander Watson of Ottawa, Ont.: to be a member and to be Chairman of the Commission, *vice* Louis De La Chesnaye Audette, resigned, effective Aug. 1, 1959.

Canadian Pension Commission.—1958. *June 5*, David G. Decker of St. John's Nfld.: to be an *ad hoc* member for one year from May 30, 1958. **1959.** *Mar. 23*, Thomas Duncan Anderson of Ottawa, Ont., Dominion Secretary of the Canadian Legion: to be a Commissioner and to be Chairman, effective Apr. 6, 1959.

The Canadian Wheat Board.—1958. *June 5*, William C. McNamara of Winnipeg, Man., Assistant Chief Commissioner of the Canadian Wheat Board: to be Chief Commissioner. *June 26*, William Riddel, a Commissioner of the Canadian Wheat Board: to be Assistant Chief Commissioner, *vice* W. C. McNamara. *July 10*, John Thompson Dallas of Winnipeg, Man.: to be a Commissioner.

Civil Service Commission.—1959. *June 18*, Samuel Harvey Shirecliffe Hughes of Toronto, Ont.: to be a member and Chairman thereof, effective July 1, 1959.

Defence Research Board.—1958. *Apr. 17*, Professor Henry George Thode, M.B.E., Vice-President, McMaster University, Hamilton, Ont., and Dr. Pierre-R. Gendron, Dean of Faculty of Pure and Applied Science, University of Ottawa, Ottawa, Ont.: to be members for the period ending Mar. 31, 1961. **1959.** *Apr. 2*, David Aaron Golden, Deputy Minister of Defence Production: to be a member, effective Apr. 1, 1959. *Apr. 9*, Dr. John H. Shipley, Montreal, Que., and Dr. John William Tranter Spinks, Saskatoon, Sask.: to be members for a three-year term beginning Apr. 1, 1959.

Dominion Coal Board.—1959. *Apr. 2*, Vincent E. Mackinnon, Secretary, United Mine Workers, Princess Local 4535, Sydney Mines, N.S.: to be a member, *vice* Daniel Owen Hartigan, resigned.

Dominion Council of Health.—1958. *Oct. 2*, Dr. R. D. Defries, C.B.E., Director Emeritus and Consultant, Connaught Medical Research Laboratories: to be a member. *Oct. 10*, John M. Cross: to be a member. *Nov. 18*, Dr. Yvette Brissette Larochelle: to be a member.

The Hamilton Harbour Commissioners.—1958. *May 29*, Argue Martin and J. Edmund McLean: to be Commissioners, each for a term of three years commencing June 1, 1958, *vice* R. G. L. Harstone, Chairman, and J. L. Stewart, respectively, whose terms of office have expired.

Historic Sites and Monuments Board of Canada.—1958. *Oct. 10*, Donald Grant Creighton, M.A., LL.D., F.R.S.C., Professor of History and Chairman of the Department of History at the University of Toronto: to be a representative of the Province of Ontario on the Board for a period of five years, *vice* Professor Fred Landon, resigned.

Dec. 17, Professor Arthur Reginald Marsden Lower, A.M., Ph.D., LL.D., F.R.S.C., Douglas Professor of History at Queen's University: to be a representative of the Province of Ontario on the Board for a period of three years. **1959.** *Aug. 1*, Richard Y. Secord of Edmonton, Alta.: to be a member representing the Province of Alberta for a period expiring *Apr. 12*, 1960, *vice* Joel K. Smith, resigned.

International Commission of the Northwest Atlantic Fisheries.—1958. *May 30*, Silas Wilmot Moores of Harbour Grace, Nfld.: to be a Canadian Commissioner for a period expiring *May 26*, 1960. **1959.** *May 28*, J. Howard MacKichen of Halifax, N.S.: to be a Commissioner for a period of two years.

International Pacific Salmon Fisheries Commission.—1958. *Nov. 12*, Fred. D. Mathers, of New Westminster, B.C.: to be a member for a period expiring *Sept. 20*, 1960.

Lakehead Harbour Commissioners.—1959. *Mar. 9*, John E. Young, Ralph B. Chandler and Leslie C. Irwin: to be Commissioners, each to hold office for a term of three years.

National Capital Commission.—1959. *Jan. 23*, The following persons to be members, effective *Feb. 6*, 1959: *For Two Years*—John Bracken, J. A. Hagerman, Howard Kennedy, M. M. MacLean, J. N. Morin, J. A. Walker, James Morey Wardle; *For Three Years*—David L. Burgess, Aimé Guertin, Walthen Guidet, Mrs. Olive Irvine, Mrs. Elizabeth McGregor MacLeod, E. J. Tavender, A.-Gaston Vincent, Q.C.; *For Four Years*—Anthony Adamson, Raymond Cossette, Maurice Cousineau, J. C. Horowitz, Q.C., Miss Clyde McCellan, H. G. R. Mews. *Feb. 6*, Howard Kennedy to be Chairman and Anthony Adamson to be Vice-Chairman.

National Energy Board.—1959. *Aug. 10*, The following persons to be members, effective *Aug. 15*, 1959: *For Two Years*—Ian N. McKinnon; *For Seven Years*—Jules Archambault, Robert D. Howland, Douglas M. Fraser and H. Lee Briggs. Ian N. McKinnon to be Chairman and Robert D. Howland to be Vice-Chairman.

National Film Board.—1958. *Nov. 18*, Marcel Cadieux, Assistant Under Secretary of State for External Affairs: to be a member to *Aug. 1*, 1960, the remainder of the term of Jules Léger, resigned. **1959.** *Feb. 26*, Mrs. Margaret Stevens, J. Frank Arnett and Arthur Dansereau: to be members.

National Library Advisory Council.—1958. *May 15*, The following persons to be members for a term expiring *Dec. 31*, 1961: Alfred G. Bailey, Fredericton, N.B., Jules Bazin, Montreal, Que., and Mrs. F. H. Fish, Calgary, Alta. *Dec. 29*, Miss Freda Waldon, Hamilton, Ont., George E. Wilson, Halifax, N.S., and Antonio Drolet, Quebec, Que.: to be members for a term of four years effective *Jan. 1*, 1959.

National Parole Board.—1958. *Dec. 29*, Thomas George Street, Barrister-at-Law, of Welland, Ont., J. Alex Admison, Q.C., of Kingston, Ont., Edouard Dion, Q.C., of New Carlisle, Que., and Frank P. Miller, Assistant Director of the Remission Service, Department of Justice: to be members to hold office during good behaviour for a period of ten years, effective *Jan. 1*, 1959; Thomas George Street to be Chairman.

National Research Council.—1958. *Mar. 4*, The following persons to be members for a term of three years from *Apr. 1*, 1958 to *Mar. 31*, 1961: R. S. Jane, President Shawinigan Chemicals, Ltd., Montreal, Que.; C. J. MacKenzie, Ottawa, Ont.; J. W. T. Spinks,

Dean of the College of Graduate Studies and Professor and Head of the Department of Chemistry, University of Saskatchewan, Saskatoon, Sask.; H. G. Thode, Vice-President, McMaster University, Hamilton, Ont.; and J. T. Wilson, Professor of Geophysics, University of Toronto, Toronto, Ont. *June 24*, M. J. P. Claude Jodoin, President, Canadian Labour Congress: to be a member for a term to expire on Mar. 31, 1961. **1959.** *Mar. 21*, The following persons to be members for a term of three years from Apr. 1, 1959: I. McTaggart Cowan, Professor and Head of the Department of Zoology, University of British Columbia, Vancouver, B.C.; F. R. Hayes, G. S. Campbell Professor of Biology (Zoology) and Head of the Department of Biology, Dalhousie University, Halifax, N.S.; A. D. Misener, Head of the Department of Physics, University of Western Ontario, London, Ont.; B. W. Sargent, McLaughlin Research Professor of Physics and Head of the Department of Physics, Queen's University, Kingston, Ont.; David L. Thomson, Vice-Principal, McGill University, Montreal, Que.; and J. Unrau, Professor of Plant Science, University of Alberta, Edmonton, Alta.

New Westminster Harbour Commissioners.—1958. *Dec. 17*, Frank H. Sheppard and George Twiss: to be Commissioners, *vice* K. K. Reid and T. W. Christie, effective Feb. 1, 1959.

Northern Ontario Pipe Line Crown Corporation.—1959. *Feb. 10*, Douglas M. Fraser of the Department of Trade and Commerce: to be a Director.

Royal Canadian Mounted Police.—1959. *Mar. 23*, Deputy Commissioner Charles Edward Rivett-Carnac: to be the Commissioner, effective Apr. 1, 1959.

Sir Frederick Banting Fund Account Committee.—1958. *May 30*, J. L. Gray, President of Atomic Energy of Canada Limited: to be a member, *vice* W. J. Bennett. **1959.** *May 14*, Dr. C. H. Goulden, Assistant Deputy Minister (Research), Department of Agriculture: to be a member, *vice* Dr. K. W. Neathy, deceased.

Tariff Board.—1958. *June 12*, Francis Leo Corcoran of Moncton, N.B.: to be a member for a term of ten years, effective July 1, 1958. **1959.** *Apr. 13*, George Herbert Glass of Ottawa, Ont.: to be a member and Vice-Chairman for a period of ten years, effective Apr. 13, 1959. *July 22*, Louis De La Chesnaye Audette: to be a member and Chairman of the Board for a term of ten years commencing Aug. 1, 1959; Francis Leo Corcoran, a member of the Board: to be a Vice-Chairman; and Eldon C. Gerry: to be a member for a term of ten years commencing Sept. 1, 1959.

Tax Appeal Board.—1958. *Sept. 22*, Cecil L. Snyder, Q.C., Assistant Chairman of the Tax Appeal Board: to be Chairman for the period Sept. 22, 1958 to Jan. 31, 1964. Jacques Panneton, Q.C.: to be a member for a period of ten years, effective Sept. 22, 1958.

Toronto Harbour Commissioners.—1958. *July 17*, James Stewart, C.B.E.: to be a member, *vice* Frederick Douglas Tolchard, deceased. **1959.** *Mar. 9*, Harry G. Kimber: to be a member, effective Apr. 1, 1959, for a term of three years, *vice* W. A. Bennett.

Unemployment Insurance Commission.—1959. *Apr. 30*, A. F. MacArthur, Toronto, Ont., International Representative, Office Employees International Union: to be Commissioner for a period of five years.

War Veterans Allowance Board.—1958. *Nov. 18*, Hilton Benjamin Mersereau: to be a member, effective Dec. 1, 1958.

PART IV. -FEDERAL LEGISLATION 1957-59

This classified list of federal legislation has been compiled from the Statutes. Naturally in summarizing material of this kind it is not always possible to convey the full implication of the legislation. The reader who is interested in any specific Act is therefore referred to the Statutes of Canada in the given volume and chapter.

**Legislation of the First Session of the Twenty-Third Parliament,
Oct. 14, 1957 to Feb. 1, 1958**

Subject, Chapter and Date of Assent	Synopsis
6 Eliz. II	
Agriculture—	
2 Nov. 7	<i>Prairie Grain Advance Payments Act</i> provides advance payment to producers, for threshed grain in storage other than in an elevator and prior to delivery to the Canadian Wheat Board. The Act replaces the <i>Prairie Grain Producers Interim Financing Act</i> (4-5 Eliz. c. 1).
22 Jan. 31	<i>Agricultural Stabilization Act</i> provides mandatory price support for nine agricultural commodities—cattle, hogs, sheep, cheese, butter, eggs and wheat, oats and barley produced outside the jurisdiction of the Canadian Wheat Board—and for other commodities that may be named from time to time. A revolving fund, not to exceed \$250,000,000, is established for stabilization assistance to be supplemented by receipts from the sale of commodities purchased under the terms of the Act. The <i>Agricultural Prices Support Act</i> is repealed by this legislation.
Finance—	
1 Oct. 24	<i>Appropriation Act No. 6, 1957</i> grants certain sums of money for the public service of the financial year ending Mar. 31, 1958.
9 Dec. 5	<i>Appropriation Act No. 7, 1957</i> grants certain sums of money for the public service of the financial year ending Mar. 31, 1958.
21 Jan. 7	<i>Appropriation Act No. 1, 1958</i> grants certain sums of money for the public service of the financial year ending Mar. 31, 1958.
29 Jan. 31	<i>An Act to amend the Federal-Provincial Tax-Sharing Arrangements Act</i> authorizes payment of an annual grant of \$7,500,000 to each of the provinces of Nova Scotia, New Brunswick and Newfoundland, and \$2,500,000 to Prince Edward Island for the four fiscal years commencing Apr. 1, 1958. The rate used in computing the "standard individual income tax", on which payments under the <i>Federal-Provincial Tax-Sharing Arrangements Act</i> are in part based, is changed from 10 p.c. to 13 p.c. for the year ending Mar. 31, 1959, thus increasing the payments to be made to the provinces in that year.
Health and Welfare—	
3 Nov. 7	<i>An Act to amend the Old Age Security Act</i> increases the amount of monthly pensions payable under the Act to \$55 per month, reduces the residence requirement for pensioners from 20 to 10 years, and increases the length of permissible temporary absence from Canada from three to six months.
4 Nov. 21	<i>An Act to amend the Blind Persons Act</i> increases the maximum amount of allowance payable to the provinces for blind persons to 75 p.c. of \$55 per month per person from the previous 75 p.c. of \$46 per month, and increases the amounts of allowable income.
5 Nov. 21	<i>An Act to amend the Disabled Persons Act</i> increases the maximum amount of allowance payable to the provinces for disabled persons to 50 p.c. of \$55 per month per person from the previous 50 p.c. of \$46, provides payments for certain additional persons who are patients in institutions, and increases the amounts of allowable income.
6 Nov. 21	<i>An Act to amend the Old Age Assistance Act</i> authorizes payments to the provinces of 50 p.c. of \$55 per month instead of the previous 50 p.c. of \$46, alters the residence requirement from 20 to 10 years and increases the amounts of permissible income.
7 Nov. 21	<i>An Act to amend the War Veterans Allowance Act, 1952</i> increases the monthly rates of certain allowances and amounts of permissible income, extends to six months the period of absence from Canada for which allowance may be paid, and increases the salaries of the members of the War Veterans Allowance Board.
19 Dec. 20	<i>An Act to amend the Pension Act</i> provides in general for additional benefits for former members of the Forces and their dependants and brings other benefits more in line with increases in the basic scale of pensions for disability which became effective July 1, 1957.

**Legislation of the First Session of the Twenty-Third Parliament,
Oct. 14, 1957 to Feb. 1, 1958—continued**

Subject, Chapter and Date of Assent	Synopsis
Insurance—	
11 Dec. 20	<i>An Act to amend the Canadian and British Insurance Companies Act</i> provides that a majority of all the directors be Canadian citizens ordinarily resident in Canada in addition to the former requirement that a majority of the directors elected by the shareholders be Canadian citizens resident in Canada, and also makes a number of administrative changes in the Act.
15 Dec. 20	<i>An Act to amend the Export Credits Insurance Act</i> increases from \$100,000,000 to \$200,000,000 the total liability that the Corporation may have outstanding at any time under contracts of insurance entered into under the terms of the Act.
Labour—	
8 Nov. 28	<i>An Act to amend the Unemployment Insurance Act</i> provides that seasonal benefit may be paid during the period from Dec. 1 to May 15, in place of the former Jan. 1 to Apr. 15, and increases the benefits payable during that period.
20 Dec. 20	<i>An Act to amend the Unemployment Assistance Act</i> removes the so-called "threshold" provision which was originally intended to establish, by calculating a stipulated percentage of the population of each province, a deduction from reimbursement claims by the provinces for persons who were, in fact, unemployable. Two other provisions, now obsolete, are also removed from the Act.
24 Jan. 31	<i>Annual Vacations Act</i> provides for an annual vacation with pay of at least two weeks in respect of every year of employment in industries under federal labour jurisdiction; in the case of continuous employment for one year but less than two, the vacation with pay to which the employee is entitled for the first completed year is one week.
National Revenue—	
14 Dec. 20	<i>An Act to amend the Excise Tax Act</i> implements the change in the excise tax on automobiles announced in the House of Commons on Dec. 6, 1957, reducing the tax on passenger cars from 10 p.c. to 7½ p.c.
17 Dec. 20	<i>An Act to amend the Income Tax Act</i> implements changes in income tax announced in the House of Commons Dec. 6, 1957. These changes include the raising from \$20,000 to \$45,000 of the profit figure below which the corporation income tax rate of 20 p.c. applies; the increase of personal income tax exemptions from \$150 to \$250 for children of family allowance age, and from \$400 to \$500 for others; reduction of the rate of personal income tax in the two lowest taxable brackets to 11 p.c. and 14 p.c. from 13 p.c. and 15 p.c.
27 Jan. 31	<i>Canada-Australia Income Tax Agreement Act, 1957</i> implements an agreement between Canada and Australia for the avoidance of double taxation and the prevention of fiscal evasion with respect to taxes on income.
Transportation—	
10 Dec. 20	<i>An Act to amend an Act respecting the Buffalo and Fort Erie Public Bridge Company</i> alters the existing Canadian Act to provide for increased Canadian representation on the Bridge Authority and for extending the life of that Authority for an agreed period of time. This legislation makes the appropriate amendments to the Act following Canada-United States agreement to revise the character of the Authority in accord with its international status and the joint interest of both countries in its property.
13 Dec. 20	<i>An Act respecting the Construction of a Line of Railway by Canadian National Railway Company from Optic Lake to Chisel Lake, and the Purchase by Canadian National Railway Company from the International Nickel Company of Canada, Limited, of a Line of Railway from Sipiwesk to a Point on Burntwood River near Mystery Lake, all in the Province of Manitoba</i> provides for the purchase of an existing 30-mile railway line from Sipiwesk to Mystery Lake, and authorizes construction of a new 52-mile line between Optic Lake and Chisel Lake, Man.
16 Dec. 20	<i>The Hamilton Harbour Commissioners Act</i> provides for federal loans to the Hamilton Harbour Commissioners up to an aggregate amount of \$4,000,000 to construct additional dockage and other facilities in Hamilton harbour.
Miscellaneous—	
12 Dec. 20	<i>An Act to amend the Canadian Vessel Construction Assistance Act</i> extends the benefits of the Act to give further encouragement to the construction and conversion of vessels in Canada.
18 Dec. 20	<i>An Act to amend the National Housing Act, 1954</i> , among other amendments, reduces the down payments required from home owners and from co-operative housing associations; and increases the maximum charge on federal funds for housing to \$400,000,000.
23 Jan. 31	<i>Alberta-Northwest Territories Boundary Act</i> approves the boundary between the province of Alberta and the Northwest Territories as surveyed and marked on the ground, the surveying and marking having been completed between 1950 and 1954.

**Legislation of the First Session of the Twenty-Third Parliament,
Oct. 14, 1957 to Feb. 1, 1958—concluded**

Subject, Chapter and Date of Assent	Synopsis
Miscellaneous—conc.	
25 Jan. 31	<i>Atlantic Provinces Power Development Act</i> assists in making electric power for industrial purposes available in the Atlantic Provinces in a suitable quantity and at lower cost. The assistance will be extended through the agencies of the Dominion Coal Board and the Northern Canada Power Commission.
26 Jan. 31	<i>An Act to authorize a Loan to the Government of New Brunswick in respect of the Beechwood Power Project</i> provides for a federal loan of up to \$30,000,000 to cover the cost of the Beechwood Power Project on the St. John River for the New Brunswick Electric Power Commission.
28 Jan. 31	<i>An Act to amend the Criminal Code</i> corrects an error appearing in the French version of the Code.
30 Jan. 31	<i>An Act to amend the Northwest Territories Act</i> extends the legislative powers of the Commissioner in Council respecting borrowing and lending of money for local projects and purposes.

**Legislation of the First Session of the Twenty-Fourth Parliament,
May 12 to Sept. 6, 1958**

Subject, Chapter and Date of Assent	Synopsis
7 Eliz. II	
Agriculture—	
5 June 26	<i>An Act to amend the Canada Agricultural Products Standards Act</i> extends the Act to include leaf tobacco so that standards may be established for interprovincial and export transactions.
11 Aug. 7	<i>An Act to amend the Animal Contagious Diseases Act</i> removes the statutory limits on the amount of compensation for cattle slaughtered under the provisions of the Act, except when slaughtered pursuant to area or herd disease eradication programs, in which case the limits are increased.
14 Aug. 7	<i>An Act to amend the Canadian Farm Loan Act</i> increases the authorized capital of the Board from \$4,000,000 to \$6,000,000.
15 Aug. 7	<i>An Act to amend the Prairie Farm Assistance Act</i> extends the benefits of the Act and makes certain administrative changes.
16 Aug. 7	<i>An Act to amend the Prairie Grain Advance Payments Act</i> adds a further exemption of deliveries in exchange for seed grain in addition to other administrative changes.
Citizenship—	
19 Aug. 13	<i>An Act to amend the Indian Act</i> makes inapplicable to persons now registered as Indians and to their descendants the provision of the Act stating that persons who have received or have been allotted half-breed lands or money script, and their descendants, are not entitled to be registered as Indians.
24 Sept. 6	<i>An Act to amend the Canadian Citizenship Act</i> removes certain discriminations previously existing against other than natural-born Canadian citizens in relation to loss of Canadian citizenship. When doubt exists as to whether a person has lost his Canadian citizenship a ruling may be obtained from a commission or court, the decision of which is final.
Finance—	
1 May 16	<i>Appropriation Act No. 2, 1958</i> grants certain sums of money for the public service of the financial year ending Mar. 31, 1959.
4 June 5	<i>Appropriation Act No. 3, 1958</i> grants certain sums of money for the public service of the financial year ending Mar. 31, 1959.
10 Aug. 7	<i>Appropriation Act No. 4, 1958</i> grants certain sums of money for the public service of the financial year ending Mar. 31, 1959.
21 Sept. 6	<i>Special Appropriation Act, 1958</i> grants certain sums of money for the public service of the financial year ending Mar. 31, 1959.

**Legislation of the First Session of the Twenty-Fourth Parliament,
May 12 to Sept. 6, 1958—continued**

Subject, Chapter and Date of Assent	Synopsis
Finance—concluded	
31 Sept. 6	<i>An Act to amend the Financial Administration Act</i> authorizes deletion from the accounts of any uncollectable debt not exceeding \$25; clarifies the regulations with respect to the issuing of special warrants for urgently required payments when Parliament is not in session and makes other administrative changes relating to the destruction of cheques after payment and the accounts of Crown corporations.
44 Sept. 6	<i>Appropriation Act No. 5, 1958</i> grants certain sums of money for the public service of the financial year ending Mar. 31, 1959.
Health and Welfare—	
6 June 26	<i>An Act to amend the Hospital Insurance and Diagnostic Services Act</i> restricts certain in-patient services to those administered in hospital and extends out-patient services to items previously excluded. It also authorizes contributions as of July 1, 1958, to a participating province which has a plan in operation, whether or not there are other participating provinces.
25 Sept. 6	<i>An Act to amend the Children of War Dead (Education Assistance) Act</i> extends the benefits of the Act to other classes of persons and increases the allowance that may be paid in certain cases.
41 Sept. 6	<i>An Act to amend the Returned Soldiers' Insurance Act</i> makes a minor alteration in wording to bring the provisions of the Act in line with the Veterans Insurance Act.
43 Sept. 6	<i>An Act to amend the Veterans Insurance Act</i> fixes Sept. 30, 1962, as the last day for entering into contracts of insurance with members of the regular forces who continued to serve until then or are discharged prior to that date.
Justice—	
33 Sept. 6	<i>An Act to amend the Judges Act</i> authorizes the payment of salaries of two additional judges of the High Court of Ontario, one additional judge of the Appeal Division of the Supreme Court of New Brunswick and six additional judges for the County Courts of Ontario.
38 Sept. 6	<i>The Parole Act</i> repeals the <i>Ticket of Leave Act</i> (R.S.C. 1952, c. 264) and sets up a new system for the conditional liberation of persons undergoing sentences of imprisonment. The new legislation implements the recommendations of the Fauteux Committee and authorizes the establishment of a National Parole Board with absolute jurisdiction over matters of parole.
39 Sept. 6	<i>An Act to amend the Penitentiary Act</i> , by repealing a subsection of the Statute, permits the extension of the tenure of office of the Commissioner and of the Deputy Commissioner beyond the age of 65 years, a limitation previously in force.
Labour—	
2 May 16	<i>An Act to amend the Unemployment Insurance Act</i> places the seasonal benefit termination date at June 28, 1958, rather than May 18, 1958.
7 July 26	<i>British Columbia Coast Steamship Service Act</i> provides for the appointment of an administrator to resume immediately the ferry service between the mainland of British Columbia and Vancouver Island, suspended by reason of a strike, and grants an 8-p.c. increase in wages established by existing collective agreements. This Act will expire no later than the thirtieth sitting day of the next session of Parliament.
National Revenue—	
12 Aug. 7	<i>Canada-Belgian Congo Income Tax Convention Act, 1958</i> extends to the Belgian Congo and the Territory of Ruanda-Urundi the terms of the Convention between Canada and Belgium for the avoidance of double taxation with respect to income taxes.
13 Aug. 7	<i>The Canada-Belgium Income Tax Convention Act, 1958</i> implements a Convention between Canada and Belgium for the avoidance of double taxation and the prevention of fiscal evasion with respect to taxes on income.
26 Sept. 6	<i>An Act to amend the Customs Act</i> establishes a more workable scheme for determining value for duty of goods imported, by revising the Sections of the Act concerned with such determination.
27 Sept. 6	<i>An Act to amend the Customs Tariff Act</i> implements the Budget resolutions on the <i>Customs Tariff Act</i> .

**Legislation of the First Session of the Twenty-Fourth Parliament,
May 12 to Sept. 6, 1958—concluded**

Subject, Chapter and Date of Assent	Synopsis
National Revenue—concl.	
29 Sept. 6	<i>Estate Tax Act</i> , as at the date of its coming into force, replaces the <i>Dominion Succession Duty Act</i> and sets forth in detail all legislation respecting the taxation of estates, consolidating, revising and simplifying the previous legislation. Under the new Act the tax on property passing or deemed to pass on death, will be computed by reference to the property comprising the estate of the deceased rather than the property contained in the bequests from the estate to the beneficiaries.
30 Sept. 6	<i>An Act to amend the Excise Tax Act</i> implements the Budget resolutions on the <i>Excise Tax Act</i> .
32 Sept. 6	<i>An Act to amend the Income Tax Act</i> gives effect to the Budget resolutions <i>re</i> the <i>Income Tax Act</i> .
Transportation and Communications—	
17 Aug. 13	<i>The Canadian National Railways Financing and Guarantee Act, 1958</i> authorizes moneys to meet certain capital expenditures of the CNR system and the guarantee of certain securities to be issued by the Company.
22 Sept. 6	<i>The Broadcasting Act</i> establishes a Board of Broadcast Governors to regulate broadcasting in Canada (separate regulatory body); provides that the expenditure of the Board shall be paid out of Parliamentary appropriations and also provides for the continuance of the Canadian Broadcasting Corporation to operate a national broadcasting service in Canada.
23 Sept. 6	<i>Campobello-Lubec Bridge Act</i> authorizes the construction of a bridge across Lubec Channel between the Province of New Brunswick and the State of Maine.
34 Sept. 6	<i>The Lakehead Harbour Commissioners Act</i> establishes a Corporation to manage and develop the harbours of Port Arthur, Fort William and Thunder Bay in the Province of Ontario, with powers similar to those of other harbour corporations established in the past.
40 Sept. 6	<i>An Act to amend the Railway Act</i> makes financial and regulative provision for the placing of reflective markings on the sides of railway cars and extends the regulations regarding signboards at level crossings to include the use of reflective material.
Miscellaneous—	
3 May 20	<i>An Act to amend the National Housing Act, 1954</i> increases the maximum charge on the Consolidated Revenue Fund to \$750,000,000 for housing purposes.
8 July 26	<i>An Act to amend the National Parks Act</i> alters the boundaries of Cape Breton Highlands National Park by withdrawing an area of nearly 10 sq. miles from the Park.
9 July 26	<i>An Act to amend the Yukon Act</i> provides a more accurate description of the eastern boundary of the Yukon Territory as determined by surveys; extends powers of the Commissioner in Council respecting the borrowing and lending of money for local purposes; and makes minor adjustments <i>re</i> intoxicants and the administration of justice.
20 Aug. 13	<i>An Act to amend the Lake of the Woods Control Board Act, 1921</i> provides for the appointment of a member to the Board by the Lieutenant-Governor of Manitoba in Council and for the appointment of alternate members to act in place of members of the Board who may be absent or unable to act.
28 Sept. 6	<i>An Act to amend the Emergency Gold Mining Assistance Act</i> extends the Act to the years 1959 and 1960 and provides for a 25-p.c. increase in the amount of assistance for the years 1958, 1959 and 1960.
36 Sept. 6	<i>An Act to authorize certain amendments to the Agreement made under the Maritime Coal Production Assistance Act with the Dominion Coal Company, Limited</i> , authorizes amendment, with particular respect to the terms of repayment, of the loan agreement made with the Dominion Coal Company Limited under the provisions of the <i>Maritime Coal Production Assistance Act</i> .
37 Sept. 6	<i>The National Capital Act</i> revises the <i>Federal District Commission Act</i> to enable the Commission to discharge more effectively its duties in connection with the preparation of plans for, and assistance in, the development and improvement of the National Capital Region. The names of the Act and of the Commission are changed and the Commission's organization, powers and financing are substantially revised.

**Legislation of the Second Session of the Twenty-Fourth Parliament,
Jan. 15 to July 18, 1959**

Subject, Chapter and Date of Assent	Synopsis
7-8 Eliz. II	
Agriculture—	
25 July 8	<i>An Act to amend the Farm Improvement Loans Act</i> extends the operations of the Act to June 30, 1962; provides a new maximum amount of guaranteed bank loans of \$300,000,000; extends the list of eligible borrowers to include beekeepers; and includes poultry with livestock. The maximum amount of individual loan is raised from \$5,000 to \$7,500.
35 July 8	<i>Seeds Act</i> revises former legislation respecting the testing, inspection and sale of seeds to meet recent trends and developments in production, processing and merchandising; no important changes are made in policy.
42 July 18	<i>The Crop Insurance Act</i> authorizes federal contributions and loans in respect of the operation of provincial schemes for crop insurance.
43 July 18	<i>Farm Credit Act</i> establishes a system of long-term mortgage credit to farmers to be administered by a Farm Credit Corporation with a capital of \$8,000,000. The Act incorporates and extends the former <i>Canadian Farm Loan Act</i> and adds a new type of supervised farm mortgage credit. Individual loans are limited to \$20,000 on a single farming enterprise with each loan not to exceed 75 p.c. of the appraised value of the land. The aggregate of loans outstanding at any time may not exceed \$200,000,000.
44 July 18	<i>The Humane Slaughter of Food Animals Act</i> authorizes the Governor in Council to make regulations respecting the methods and devices to be employed to ensure humane slaughter of food animals in an establishment registered under the Meat Inspection Act.
Finance—	
1 Feb. 25	<i>Appropriation Act No. 1, 1959</i> grants certain sums of money for the public service of the financial year ending Mar. 31, 1959.
2 Mar. 20	<i>Appropriation Act No. 2, 1959</i> grants certain sums of money for the public service of the financial year ending Mar. 31, 1960.
3 Mar. 20	<i>Appropriation Act No. 3, 1959</i> grants certain sums of money for the public service of the financial year ending Mar. 31, 1959.
11 June 4	<i>Appropriation Act No. 4, 1959</i> grants certain sums of money for the public service of the financial year ending Mar. 31, 1960.
19 July 8	<i>An Act to amend the Bretton Woods Agreements Act</i> provides for an increase in Canada's subscriptions to the International Monetary Fund and to the International Bank for Reconstruction and Development to a maximum of the Canadian dollar equivalent of 1,300,000,000 United States dollars. As the rate of exchange is now variable it is expedient to describe Canada's obligations under the Act in United States dollars rather than as a fixed amount in Canadian dollars, as formerly.
21 July 8	<i>The Canadian Forces Superannuation Act</i> revises and consolidates certain pension provisions of the <i>Defence Services Pension Act</i> and provides for the payment of superannuation and other benefits to members of the Canadian Forces and their dependants.
26 July 8	<i>An Act to amend the Federal-Provincial Tax-Sharing Arrangements Act</i> extends for another year the rate of 13 p.c. for standard individual income tax for the purpose of calculating the tax equalization payments to the provinces and the amounts payable to the provinces under the tax rental agreements.
32 July 8	<i>The Public Service Pension Adjustment Act</i> provides for, and places on a continuing basis, increases in certain pensions being paid to former civil servants, members of the Armed Forces, members of the Royal Canadian Mounted Police or to their dependants.
48 July 18	<i>Newfoundland Additional Grants Act</i> authorizes the payment of additional annual grants to the Province of Newfoundland for the fiscal years 1957-58 to 1961-62 in accordance with the scale contained in the Report of the Royal Commission on Newfoundland Finances established under Term 29 of the Terms of Union of Newfoundland with Canada.
55 July 8	<i>Appropriation Act No. 5, 1959 (Main Supply)</i> grants certain sums of money for the public service of the financial year ending Mar. 31, 1960.

**Legislation of the Second Session of the Twenty-Fourth Parliament,
Jan. 15 to July 18, 1959—continued**

Subject, Chapter and Date of Assent	Synopsis
Government—	
7 Mar. 20	<i>An Act to amend the Northwest Territories Act</i> provides for the appointment by the Governor in Council of judicial as well as of administrative officers; the term of office for each Council is fixed at three years; and protection is provided for archaeological sites, works, and objects, etc., of historical or ethnological importance.
15 June 4	<i>Parliamentary Secretaries Act</i> provides for the appointment, from among members of the House of Commons, of 16 Parliamentary Secretaries to Ministers at an annual salary of \$4,000 each. Appointments are for one year, and appointees are not disqualified from sitting in the House of Commons or voting therein by reason of their holding the office of Parliamentary Secretary.
16 June 4	<i>An Act to amend the Representation Act</i> changes the name of the electoral district of "Témiscouata" to that of "Rivière-du-Loup—Témiscouata".
Health and Welfare—	
14 June 4	<i>An Act to amend the Old Age Security Act</i> augments the Old Age Security Fund by increasing the sales tax, for purposes of the Act, to 3 p.c. from 2 p.c., the tax on personal income to 3 p.c. from 2 p.c. subject to a limit of \$90 annually, and the tax on corporation income to 3 p.c. from 2 p.c.
17 June 4	<i>An Act to amend the Veterans Rehabilitation Act</i> provides for new amendments concerning veterans to meet changing conditions and circumstances.
18 June 4	<i>An Act to amend the War Service Grants Act</i> makes deletions and revisions to the legislation to meet changing conditions and circumstances.
34 July 8	<i>Royal Canadian Mounted Police Superannuation Act</i> revises and consolidates those provisions of the <i>Royal Canadian Mounted Police Act</i> providing for the payment of pensions based on service in the Force and pensions in respect of injury or death on service; it also includes certain amendments to provisions of the same Act that will continue to apply in respect of members of the Force appointed before Mar. 1, 1949.
37 July 8	<i>An Act to amend the Veterans' Land Act</i> , in addition to administrative changes, provides further financial assistance to veterans for home construction and to veterans settled under the Act as full-time farmers, part-time farmers or commercial fishermen.
Justice—	
28 July 8	<i>An Act to amend the Judges Act</i> provides salaries for three additional puisne judges of the Superior Court of Quebec, two additional judges of the Supreme Court of British Columbia and two additional judges of the Trial Division of the Supreme Court of Alberta.
31 July 8	<i>An Act to amend the Prisons and Reformatories Act</i> authorizes transfer of certain prisoners in New Brunswick and Manitoba.
40 July 18	<i>An Act to amend the Combines Investigation Act and the Criminal Code</i> specifically exempts arrangements between fishermen or associations of persons engaged in the buying or processing of fish in British Columbia with respect to the price, the remuneration or other conditions under which fish shall be caught and supplied between Jan. 1, 1959 and Dec. 31, 1960, from anti-combines legislation which would otherwise affect them.
41 July 18	<i>An Act to amend the Criminal Code</i> contains a number of important amendments including, among others, a new legal definition of obscenity in publications; the extending to Canadian courts of jurisdiction over indictable offences committed on board certain aircraft while in flight; revisions to those parts of the Code concerning offensive weapons, particularly firearms; and the extension of "communications" as used for illegal book-making and betting practice to include the use of radio; restrictions on news reports of admissions or confessions of guilt in criminal cases before the end of a preliminary hearing; and the mandatory allowance of time for an accused to raise money to pay a fine on conviction of an indictable offence.
54 July 18	<i>The Royal Canadian Mounted Police Act</i> revises and consolidates the administrative and disciplinary provisions of the former <i>Royal Canadian Mounted Police Act</i> , which is now repealed. The Parts of the former Act dealing with pensions, have been revised and are embodied in a separate measure (<i>see c. 34 above</i>).

**Legislation of the Second Session of the Twenty-Fourth Parliament,
Jan. 15 to July 18, 1959—continued**

Subject, Chapter and Date of Assent	Synopsis
Labour—	
36 July 8	<i>An Act to amend the Unemployment Insurance Act</i> raises the "wage ceiling" of insurability to \$5,460 from \$4,800; increases the rates of contributions to be paid on behalf of insured persons and employers; adds new grounds for extension of the qualifying periods; provides a new schedule of rates of benefit, the result of the new table of contributions; provides that maximum benefit may now be paid for 52 instead of 36 weeks; and establishes a new schedule of allowable earnings.
National Revenue—	
12 June 4	<i>An Act to amend the Customs Tariff and the New Zealand Trade Agreement Act, 1932</i> makes various changes in the Tariff Schedules between the two countries.
13 June 4	<i>An Act to amend the Excise Act</i> implements the Budget resolution on the <i>Excise Act</i> increasing excise taxes on spirits and on cigars.
20 July 8	<i>Canada-Finland Tax Convention Act, 1959</i> implements a Convention between Canada and the Republic of Finland for the avoidance of double taxation and the prevention of fiscal evasion with respect to taxes on income.
23 July 8	<i>An Act to amend the Excise Tax Act</i> implements the Budget resolution to amend the <i>Excise Tax Act</i> and makes a number of administrative changes. The excise tax on cigarettes is increased and the export duty on electricity formerly in effect under the <i>Exportation of Power and Fluids and Importation of Gas Act, 1955 (c. 14)</i> is transferred to this Act.
45 July 18	<i>An Act to amend the Income Tax Act</i> implements the Budget resolutions on the <i>Income Tax Act</i> raising the rates to be paid by both individual and corporate taxpayers, applicable to 1958 and subsequent years. Revised schedules of tax rates are included in the Statute.
Trade and Commerce—	
8 Mar. 20	<i>An Act to amend the Public Servants Inventions Act</i> permits a corporate agency to which the administration and control of any patent or invention has been transferred to retain the proceeds therefrom, to be used for the purposes of this Act and the purposes for which the agency was established.
24 July 8	<i>An Act to amend the Export Credits Insurance Act</i> authorizes the Export Credits Insurance Corporation to provide direct and unconditional guarantees to banks or other financial organizations and, in addition, to buy, sell or make loans on guaranteed export paper up to \$200,000,000, thus making available broader sources of financing for exporters of capital goods.
29 July 8	<i>An Act to amend the Length and Mass Units Act</i> changes the value of the pound—the standard unit of mass for Canada—in relation to the international kilogramme, to conform with a recent international agreement.
38 July 8	<i>An Act to amend the Weights and Measures Act</i> changes the value of the pound in relation to the international kilogramme, to conform with a recent international agreement.
49 July 18	<i>An Act to repeal certain Fisheries Laws in force in the Province of Newfoundland respecting the Exportation of Salt Fish</i> repeals certain fisheries laws of Newfoundland providing for the control by export-permit from Newfoundland of codfish, haddock, hake, ling, pollock and cusk in salted form. Under the Terms of Union of Newfoundland with Canada these laws were to continue in force for five years from the date of Union and thereafter until the Parliament of Canada otherwise provided.
Transportation—	
9 Mar. 20	<i>An Act to amend the St. Lawrence Seaway Authority Act</i> increases from \$300,000,000 to \$335,000,000 the limit on amounts that may be borrowed by the Seaway Authority and outstanding at any one time.
10 Mar. 20	<i>An Act to amend the Trans-Canada Highway Act</i> increases by \$100,000,000 to a maximum of \$350,000,000, the amount of expenditures authorized by Sections 4, 5 and 6.
22 July 8	<i>Canadian National Railways Financing and Guarantee Act, 1959</i> , provides moneys to meet certain capital expenditures of the Canadian National Railway System and guarantees certain securities to be issued by the CNR between Jan. 1, 1959 and June 30, 1960.
27 July 8	<i>The Freight Rates Reduction Act</i> provides for the revision of certain class and commodity freight rates and authorizes compensation of the companies to the extent of not more than \$20,000,000.

**Legislation of the Second Session of the Twenty-Fourth Parliament,
Jan. 15 to July 18, 1959—concluded**

Subject Chapter and Date of Assent	Synopsis
Transportation— —concluded	
51 July 18	<i>Pigeon River Bridge Act</i> provides for the construction, maintenance and operation of a toll-free bridge over the Pigeon River near the settlement of that name in Ontario to form a link with the highways in Ontario and the State of Minnesota.
53 July 18	<i>The Queenston Bridge Act</i> authorizes replacement of the International Bridge over the Niagara River from Queenston, Ont. to Lewiston, N. Y.
Miscellaneous—	
4 Mar. 20	<i>An Act to amend the Fisheries Improvement Loans Act</i> extends the provisions of the Act to persons who do not have an interest in a fishing vessel but intend to acquire one, and extends the period during which guaranteed loans may be made to June 30, 1962.
5 Mar. 20	<i>An Act to amend the National Defence Act</i> standardizes the rules of evidence at courts martial; requires unanimous vote of members of court if mandatory punishment is death or to impose death penalty if authorized but not mandatory; and contains other changes in connection with court martial legislation. The Minister is given authority to establish integrated organizations consisting of elements of more than one Service. The name of the Royal Canadian Air Force in French is changed to "Forces aériennes royales du Canada", a more descriptive nomenclature.
6 Mar. 20	<i>An Act to amend the National Housing Act, 1954</i> increases the aggregate amount available for housing loans to \$1,000,000,000 from \$750,000,000 and makes other amendments including the granting of permission to the Corporations to sell mortgages to persons other than approved lenders, and the raising of acquisition fees payable in respect of conveyance of property.
30 July 8	<i>An Act to amend the Prime Minister's Residence Act</i> extends the Act to include property at Harrington Lake (Lac Mousseau) to be used as a country residence for the person holding the office of Prime Minister of Canada.
33 July 8	<i>Queen Elizabeth II Canadian Research Fund Act</i> marks the occasion of Her Majesty's visit to Canada by providing for the establishment and administration of a Fund to aid in research on the diseases of children. The sum of \$1,000,000 is appropriated for the Fund to be administered by a Board of Trustees assisted by the National Research Council.
39 July 18	<i>Coal Production Assistance Act</i> amends the <i>Maritime Coal Production Assistance Act</i> and extends its provisions to coal producers in all parts of Canada. The aggregate principal amount of loans is doubled to \$20,000,000 and the maximum loan to one coal producer increased to \$12,000,000. The operation of the Act is extended to Oct. 31, 1964. Certain other amendments concern the agreement made under the Act with the Dominion Coal Company.
46 July 18	<i>The National Energy Act</i> provides for the establishment of a National Energy Board which shall assure the best use of energy resources in the country, regulate the construction and operation of oil and gas pipelines, the tolls charged for transmission by such pipelines, the export and import of gas, the export of electric power and the construction of lines over which such power is exported. The Board shall study and keep under review all matters relating to energy within the jurisdiction of the Federal Government and shall recommend to the Minister of Trade and Commerce the measures it considers advisable with regard to such matters.
47 July 18	<i>An Act to Confirm an Agreement between the Government of Canada and the Government of the Province of New Brunswick respecting Indian Reserves</i> ratifies and confirms an agreement made on Mar. 25, 1958, between the said governments in relation to lands forming part of Indian reserves in the Province of New Brunswick. Its purpose is to clarify title to the lands in question.
50 July 18	<i>An Act to Confirm an Agreement between the Government of Canada and the Government of the Province of Nova Scotia respecting Indian Reserves</i> ratifies and confirms an agreement made on Apr. 14, 1959, between the said governments in relation to lands forming part of Indian reserves in the Province of Nova Scotia. Its purpose is to clarify title to the lands in question.
52 July 18	<i>An Act to amend the Public Lands Grants Act</i> removes any possible doubts that might exist as to the authority of the Governor in Council to transfer lands to the Crown in right of a province or otherwise.

PART V.—CANADIAN CHRONOLOGY

Events in the general chronology from 1497 to 1866 are given in the 1951 Year Book, pp. 46-49; from 1867 to 1953 in the 1954 Year Book, pp. 1259-1264; for 1954 in the 1955 Year Book, pp. 1329-1330; for 1955 in the 1956 edition, pp. 1233-1234 and for 1956 in the 1957-58 edition, p. 1270. References regarding federal and provincial elections or changes in legislatures or ministries are not included in the following listing but may be found in Chapter II on Constitution and Government and in the Appendix.

1957. *Jan. 2-10*, Strike of CPR employees halting operations on 17,000 miles of track. *Jan. 11*, Canadian aircraft carrier *Magnificent* with troops and supplies for UNEF reached Port Said. *Mar. 5-6*, The United Kingdom Colony of the Gold Coast became a free and independent member of the Commonwealth named Ghana; Canada was represented at the ceremonies by Hon. George Prudham, Minister of Mines and Technical Surveys. *Mar. 6*, The Supreme Court of Canada nullified the Quebec Padlock Law. *Mar. 7*, UNEF took over the Gaza Strip in the Middle East. *Mar. 11*, The 11th Session of the United Nations General Assembly adjourned. *Mar. 18*, Disarmament conference, including United States, United Kingdom, France, Russia and Canada, opened at London, England. *Mar. 25-26*, Prime Minister Macmillan of the United Kingdom and Prime Minister St. Laurent of Canada, met in Bermuda to discuss common problems concerning the Middle East, Far East, NATO, European co-operation, the reunification of Germany, and defence. *May 2-3*, NATO Ministerial Meeting held in Bonn, Germany, to discuss problems of security, political developments within and without the NATO area, events in the Middle East and Hungary and defence of the Atlantic Alliance. *June 15*, Canadian Federation of Mayors and Municipalities Conference held at Montreal, Que. *June 21*, The Hon. Ellen Fairclough appointed Secretary of State for Canada, the first woman to hold a portfolio in a Canadian Cabinet and the second woman Cabinet Minister in the history of the Commonwealth. *June 26-July 5*, Prime Minister Diefenbaker attended the Conference of Commonwealth Prime Ministers in London, England. *July 1*, Official opening of the International Geophysical Year extending to January 1959. *July 3*, Agreement signed between Canada and the United States for the conservation and regulation of the pink salmon fisheries of the Juan de Fuca-Fraser River area of the Pacific Coast. *July 22*, Opening of the hearings of the Royal Commission reviewing Newfoundland's 1949 Terms of Union with Canada. *July 27*, United States Secretary of State John Foster Dulles visited Ottawa for informal talks with Prime Minister Diefenbaker. *July 31*, The Distant Early Warning (DEW) radar line, a combined United States-Canada defence project, officially went into operation. Announcement by Defence Minister Pearkes of the official formation of a North American Air Defence Command (NORAD) to be commanded by Lt.-General Earl Partridge (USAF); deputy commander to be Air Marshal C. Roy Slemon (RCAF). *Aug. 11*, Worst aircraft crash in Canadian aviation history occurred at Issoudun, near Quebec City, when a chartered aircraft returning to Canada from England with veterans and their families crashed and burned, taking the lives of 79 persons. *Aug. 14-Sept. 25*, Canada was host at Ottawa to the 14th Congress of the Universal Postal Union. *Aug. 21*, Prime Minister Diefenbaker announced \$150,000,000 loans program for

low-cost housing. *Aug. 23*, Saskatchewan became the first Province to complete its share of the Trans-Canada Highway with the official opening by Premier T. C. Douglas, of that Province's 406-mile stretch of the Highway. *Aug. 24*, Navy Arctic patrol ship, HMCS *Labrador*, became the first deep-draught vessel to proceed through Bellot Strait. *Aug. 31*, The nine Malayan States became an independent federation within the British Commonwealth of Nations, with Yang Di-Pertuan Besar as the Head of the new Federation. *Sept. 3*, Prime Minister Diefenbaker welcomed more than 1,200 scientists of the International Union of Geodesy and Geophysics from over 50 countries meeting in Toronto, Ont. *Sept. 6*, Rt. Hon. Louis S. St. Laurent announced his retirement as leader of the Liberal Party. *Sept. 15*, The Queen appointed Prime Minister Diefenbaker a member of the Imperial Privy Council. *Sept. 28*, Four-day Conference of Commonwealth Finance Ministers opened at Mont Tremblant, Que. *Oct. 4*, Canadian and United Kingdom Finance Ministers met in Ottawa to discuss trade. The U.S.S.R. successfully launched the first earth satellite—*Sputnik I*. *Oct. 12*, The Hon. Lester B. Pearson the first Canadian to be awarded the Nobel Peace Prize. *Oct. 12-16*, H.M. Queen Elizabeth and H.R.H. Prince Philip arrived in Ottawa beginning a nine-day visit to Canada and the United States. *Oct. 14*, For the first time in Canadian history the reigning monarch officiated at the opening of the Parliament of Canada. *Oct. 18*, Montreal Herald ceased publication on completion of 146th year. *Oct. 24*, United Nations celebrated 12th birthday since signing of the Charter in San Francisco in 1945. *Nov. 3*, NRU, one of the most advanced research and engineering test reactors in the world, started operation at Chalk River, Ont. *Nov. 14*, The Prime Minister announced \$125,000,000-plans for Maritime power development. *Nov. 22*, Delegation of 58 businessmen from all provinces headed by Trade and Commerce Minister Hon. Gordon Churchill left for the U.K. where they toured industrial areas and discussed furthering of trade between the two countries. *Nov. 22*, First vessel passed through Iroquois Lock, the first St. Lawrence Seaway lock to be completed. *Nov. 26*, Two-day Dominion-Provincial Conference at Ottawa ended with federal offer of grants-in-aid to Atlantic Provinces; boosts in unemployment relief. *Dec. 16-19*, A special meeting of 15 Heads of Government of NATO member countries convened in Paris, France, to discuss problems of the free world including the implications of the successful testing by the U.S.S.R. of an intercontinental ballistic missile. Canada was represented by Prime Minister Diefenbaker, External Affairs Minister Smith, Defence Minister Pearkes and Finance Minister Fleming.

1958. *Jan. 1*, Celebrations to commemorate British Columbia's centennial year began. *Jan. 16*, Hon. Lester B. Pearson chosen as national leader of the Liberal Party at convention in

Ottawa. *Jan. 17*, Royal Commission appointed to study dispute between the CPR and the Brotherhood of Locomotive Firemen and Enginemen, headed by Justice Kellock. *Jan. 28*, Queen Mother Elizabeth stopped briefly in Montreal and Vancouver on round-the-world tour. *Feb. 1*, United States Army successfully launched first American earth satellite—*Explorer*. *Feb. 4*, Kellock Royal Commission declared that firemen were unnecessary on diesel engines used by the CPR in its freight and yard operations. *Feb. 17*, Rt. Hon. Louis S. St. Laurent, Prime Minister of Canada from 1948-1957, announced his retirement from active politics. *Apr. 5*, Ripple Rock in Seymour Narrows near Campbell River, B.C., worst underwater shipping hazard on the West Coast, removed by underwater explosion. *Apr. 24-May 20*, Trade mission from the United Kingdom toured Canada exploring ways of expanding British sales in this country. *Apr. 30*, Celebration in Montreal of the 300th anniversary of the first school established in that city by Marguerite Bourgeoys in 1653. *May 28-June 4*, President Theodor Heuss of the Federal Republic of Germany made state visit to Canada, the first German Head of State ever to do so. *June 12*, Prime Minister Macmillan of the United Kingdom addressed a joint session of the Senate and the House of Commons during a visit to Ottawa. *June 21-July 9*, Celebrations in Quebec City marking the 350th anniversary on July 1 of its founding in 1608 by Samuel de Champlain. *July 1*, Canadians celebrated the 91st anniversary of Confederation. Blasting of the cofferdam holding back the waters of the St. Lawrence River touched off the creation of the 100-sq. mile St. Lawrence power pool, permitting, within a few days, the operation of the first generators of the new hydro development and the use of two seaway locks on the U.S. side of the River and of the Canadian seaway lock at Iroquois. Inauguration of Canada's new microwave relay system, completed from coast to coast. Federal-Provincial Hospital Plan went into effect in British Columbia, Alberta, Saskatchewan, Manitoba and Newfoundland. *July 5*, Stephen Leacock Memorial Home at Orillia, Ont. officially opened. *July 8-11*, President Eisenhower of the United States in Ottawa for discussions that resulted in the establishment of a joint Canada-United States Cabinet Committee on defence. *July 12-Aug. 11*, Princess Margaret toured Canada from Victoria to Halifax, visiting seven provinces on her first North American visit. *July 18*, External Affairs Minister Sidney Smith in Washington for talks with British Foreign Secretary Selwyn Lloyd and United States Secretary of State John Foster Dulles regarding the tense Middle East situation. *July 19-23*, Dr. Kwame Nkrumah, Prime Minister of Ghana, visited Montreal and Ottawa and addressed a joint sitting of the Senate and the House of Commons. *July 26*, The Government of Canada signed the agreement previously ratified by the Government of Saskatchewan which authorized commencement of construction work on the South Saskatchewan River Project. *Aug. 20*, The Canadian Board of Geographical Names decided on "Lake St. Lawrence" as the name for the new 35-mile-long lake created by hydro power development on the St. Lawrence River. *Sept. 1-5*, Eighth Quinquennial Congress of the Universities of the British Commonwealth held in Montreal—its first meeting outside the United Kingdom. *Sept. 5*, The Robert H. Saunders Powerhouse officially opened by Canadian and American

dignitaries. *Sept. 7*, World Power Conference opened in Montreal attended by 1,200 delegates from 51 countries. *Sept. 11*, Death of Camillien Houde, seven times mayor of Montreal. *Sept. 15-26*, Commonwealth Trade and Economic Conference held in Montreal. *Sept. 16*, External Affairs Minister Sidney Smith headed Canada's delegation to the 13th General Assembly of the United Nations in New York. *Oct. 1*, Canada House in New York City formally opened at a ceremony presided over by External Affairs Minister Sidney Smith, Mayor Robert Wagner of New York and the Hon. Ray Lawson. *Oct. 11-13*, Prime Minister Walter Nash of New Zealand in Ottawa to confer with Prime Minister Diefenbaker. *Oct. 16*, Mrs. Golda Meir, Israeli Foreign Minister, in Ottawa to confer with Canada's Prime Minister and Minister of External Affairs. *Oct. 22*, Miss Blanche Margaret Meagher appointed Ambassador to Israel, the first Canadian woman in an ambassadorial post. *Oct. 23*, Seventy-four lives lost in a coal mine explosion at Springhill, N.S.; 81 men were rescued the first day, 12 on Oct. 30 and seven on Nov. 1. *Oct. 25*, An explosion, attributed to gas leakage, caused extensive damage in downtown Ottawa. *Oct. 28-31*, Prince Philip visited Ottawa to attend the Conference of the English-Speaking Union of which he is President. *Oct. 28 - Dec. 19*, The Prime Minister, accompanied by Mrs. Diefenbaker, toured European and Commonwealth countries. *Dec. 31*, Trade Union Local 2-254 of The International Woodworkers of America struck against its employer, the Anglo-Newfoundland Development Company, following the latter's rejection of the recommended wage increase by a Conciliation Board under the Newfoundland Labour Relations Act. When violence accompanied the strike, the Newfoundland Government with the unanimous support of the Assembly enacted the Trade Union (Emergency Provisions) Act of 1959, decertifying the two locals (2-254 and 2-255) of the IWA, and announced the organization of a rival union.

1959. *Jan. 1*, Federal-Provincial Hospital Plan went into effect in Ontario and Nova Scotia. *Feb. 20*, Production of the *CF-105 Arrow* discontinued. *Feb. 23*, Celebration of the 50th anniversary of flight in Canada at Bras d'Or Lake, N.S., scene of the first "Silver Dart" flight. *Mar. 17*, Death of Dr. Sidney Earle Smith, Minister of the Department of External Affairs. *Mar. 18*, Prime Minister Macmillan of the United Kingdom arrived in Ottawa for discussions on the situation in Germany, following talks in Russia and France and en route to Washington. *Apr. 10*, Canada's first privately owned and operated nuclear research reactor officially opened at McMaster University. *Apr. 26*, The St. Lawrence Seaway opened to navigation. *Apr. 26*, Prime Minister Fidel Castro of Cuba visited Montreal. *May 20*, Prime Minister Robert Menzies of Australia visited Ottawa. *June 18*, Her Majesty Queen Elizabeth and Prince Philip arrived at Torbay, Nfld., to begin a 45-day coast-to-coast tour of Canada. *June 20*, Thirty-five fishermen lost their lives in a violent storm in Northumberland Strait. *June 26*, The St. Lawrence Seaway officially opened by Her Majesty Queen Elizabeth and President Eisenhower of the United States in a historic ceremony at St. Lambert, Que. *June 30*, Seventeenth season of Canadian Shakespearean Festival opened at Stratford, Ont. *July 1*, Federal-Provincial Hospital Plan went into effect in New Brunswick. *July 2*, Japan

and Canada signed pact pledging co-operation in the peaceful uses of atomic energy. *July 9*, Canadian Brotherhood of Railway, Transport and General Workers was declared by the Canadian Labour Relations Board the bargaining agent of a system-wide unit of operating and maintenance employees of the St. Lawrence Seaway Authority. *July 15-29*, A Canadian delegation, headed by the Hon. George Drew, attended the Commonwealth Education Conference in Oxford, England, implementing the program proposed by Canada at the Commonwealth Economic Conference held at Montreal in September 1958. *July 17*, The Canadian Government announced the creation of an Emergency Measures Organization to function in the event of a sudden nuclear war. *July 18*, The Canadian Government announced the creation of a five-man National Energy Board which will have wide powers over the oil and natural gas industries and international electric power connections. *July 22*, Official opening of the Queen Elizabeth Power Generating Station (Saskatchewan Power Corporation) at Saskatoon by Her Majesty Queen Elizabeth. *Aug. 1*,

The Federal Cabinet met in Halifax, N.S., to bid farewell to Her Majesty Queen Elizabeth and Prince Philip who left by air for London, England. *Aug. 6*, Watson Seller, Auditor-General of Canada since 1940, retired. *Aug. 17*, Northern Affairs Minister Alvin Hamilton announced the discovery of oil at Eagle Plain, Yukon Territory—the first such discovery in the Yukon. *Sept. 7*, Death of Maurice Duplessis, Premier of Quebec Province for the past 18 years, at Schefferville, Que. *Sept. 9*, Announcement that Canada's first large nuclear power station will be built on the shores of Lake Huron, nine miles north of Kincardine at an estimated cost of \$60,000,000. *Sept. 10*, The Hon. Paul Sauvé chosen to succeed the late Maurice Duplessis as Premier of the Province of Quebec. *Sept. 13*, Two-hundredth anniversary of the battle of the Plains of Abraham. *Sept. 15*, Major-General George P. Vanier, D.S.O., M.C., C.D., appointed Governor General of Canada to succeed the Rt. Hon. Vincent Massey; investiture took place in the Senate. *Oct. 1*, Federal-Provincial Hospital Plan went into effect in Prince Edward Island.

PART VI.—STATISTICAL SUMMARY OF THE PROGRESS OF CANADA 1871-1958

Newfoundland entered Confederation in 1949 and figures for that province are included with Canadian statistics as they have become available. Under each item in the following Summary, the inclusion of Newfoundland data for the first time is indicated by a black dot (•). If no dot is shown on any of the years from 1951-58 for a particular item, Newfoundland is excluded throughout. In some instances the symbol does not apply. Revisions of figures published in previous editions of the Year Book are not indicated in this Summary.

STATISTICAL SUMMARY OF THE PROGRESS OF CANADA

NOTE.—The interpretation of the symbols used in the table will be found facing p. 1 of this volume.

	Item	1871	1881	1891	1901	1911	1921
Population ¹							
1	Newfoundland..... No.	...	...	...	...	...	...
2	Prince Edward Island..... "	94,021	108,891	109,078	103,259	93,728	88,615
3	Nova Scotia..... "	387,800	440,572	450,396	459,574	492,338	523,837
4	New Brunswick..... "	285,594	321,233	321,263	331,120	351,889	387,876
5	Quebec..... "	1,191,516	1,359,027	1,488,535	1,648,898	2,005,776	2,360,510
6	Ontario..... "	1,620,851	1,926,922	2,114,321	2,182,947	2,527,292	2,933,662
7	Manitoba..... "	25,228	62,260	152,506	255,211	461,394	610,118
8	Saskatchewan..... "	..	..	..	91,279	492,432	757,510
9	Alberta..... "	..	..	..	73,022	374,295	588,454
10	British Columbia..... "	36,247	49,459	98,173	178,557	392,480	524,582
11	Yukon Territory..... "	..	..	..	27,219	8,512	4,157
12	Northwest Territories..... "	48,000	56,446	98,967	20,129	6,507	8,143
	Canada..... "	3,689,257	4,324,810	4,833,239	5,371,315	7,206,643	8,787,949 ²
13	Households (excl. Territories)... No.	..	800,410	900,080	1,058,386	1,482,980	1,897,110
Immigration —							
14	From United Kingdom..... No.	..	17,033	22,042	11,810 ⁴	144,076	43,772
15	From United States..... "	..	21,822	52,516	17,987 ⁴	112,028	23,888
16	From other countries..... "	..	9,136	7,607	19,352 ⁴	75,184	24,068
	Totals, Immigration..... "	27,773	47,991	82,165	49,149 ⁴	331,288	91,728 ⁶
Vital Statistics —							
17	Births (live)..... No.	..	..	..	..	..	..
	Rates per 1,000 population....	..	..	..	..	..	..
18	Deaths, all causes..... No.	..	..	..	..	..	..
	Rates per 1,000 population....	..	..	..	..	..	..
19	Marriages..... No.	..	..	..	..	..	..
	Rates per 1,000 population....	..	..	..	..	..	..
20	Divorces..... No.	4	7	10	19	57	558
Health and Welfare —							
PUBLIC HOSPITALS ⁵							
21	Hospitals..... No.	..	..	..	..	..	..
22	Bed capacity ⁶ "	..	..	..	..	..	..
23	Patient days ⁷ "	..	..	..	..	..	..
24	Expenditure (net) ⁸ \$	..	..	..	..	..	..
Tuberculosis Sanatoria —							
25	Sanatoria..... No.	..	..	..	..	..	..
26	Bed capacity..... "	..	..	..	..	..	..
27	Patient days..... "	..	..	..	..	..	..
28	Expenditure (net) ⁸ \$	..	..	..	..	..	..
Mental Institutions —							
29	Hospitals..... No.	..	..	..	..	..	..
30	Bed capacity..... "	..	..	..	..	..	..
31	Patient days..... "	..	..	..	..	..	..
32	Expenditure (net) ⁸ \$	..	..	..	..	..	..
33	FAMILY ALLOWANCES..... \$	..	..	..	..	..	..
34	OLD AGE SECURITY..... \$	..	..	..	..	..	..
35	ALLOWANCES FOR THE BLIND ¹⁰ \$	..	..	..	..	..	..
36	UNEMPLOYMENT INSURANCE PAID ^{4,11} \$	..	..	..	..	..	..
Criminal Statistics ¹²							
37	Convictions, indictable offences. No.	..	3,509 ¹³	3,974	5,638	12,627	19,396
	Convictions, offences punishable on summary conviction—						
38	Relating to traffic and parking regulations..... No.	..	30,365 ¹³	33,643	36,510	100,633	51,843
39	Other..... No. }	..					105,934

¹ At every census the previous post-censal estimates made at June 1 each year are adjusted to the newly recorded population figures.² Includes 485 members of the Royal Canadian Navy recorded separately.³ Inter-

censal estimate—excludes households in institutions.

⁴ Year ended Mar. 31.⁵ Reporting public

hospitals only; private and federal hospitals excluded.

⁶ Bassinets for newborn excluded.⁷ Days' stay

STATISTICAL SUMMARY OF THE PROGRESS OF CANADA—continued

NOTE.—The interpretation of the symbols used in the table will be found facing p. 1 of this volume.

1931	1941	1951	1955	1956	1957	1958	
...	...	361,416	406,000	415,074	426,000	438,000	1
88,038	95,047	98,429	100,000	99,285	99,000	100,000	2
512,846	577,962	642,584	683,000	694,717	702,000	710,000	3
408,219	457,401	515,697	547,000	554,616	565,000	577,000	4
2,874,662	3,331,882	4,055,681	4,517,000	4,628,378	4,758,000	4,884,000	5
3,431,683	3,787,655	4,597,542	5,266,000	5,404,933	5,622,000	5,803,000	6
700,139	729,744	776,541	839,000	850,040	860,000	870,000	7
921,785	895,992	831,728	878,000	880,665	879,000	888,000	8
731,605	796,169	939,501	1,091,000	1,123,116	1,160,000	1,201,000	9
694,263	817,861	1,165,210	1,342,000	1,398,464	1,487,000	1,544,000	10
4,230	4,914	9,096	11,000	12,190	12,000	13,000	11
9,316	12,028	16,004	18,000	19,313	19,000	20,000	12
10,376,786	11,506,655	14,009,429 ●	15,698,000	16,080,791	16,589,000	17,048,000	
2,275,171	2,706,089	3,420,822 ●	3,812,000 ⁸	3,941,148	4,112,000 ⁸	4,234,000 ⁸	13
7,678	435	31,559	29,382	50,390	108,989	24,777	14
15,195	6,594	7,755	10,395	9,777	11,008	10,846	15
4,657	2,300	155,077	70,169	104,690	162,167	89,228	16
27,530	9,329	194,391	109,946	164,857	282,164	124,851	
247,205	263,993	381,092 ●	442,937	450,739	469,093	..	17
23.2	22.4	27.2 ●	28.2	28.0	28.3	..	
108,446	118,797	125,823 ●	128,476	131,961	136,579	..	18
10.2	10.1	9.0 ●	8.2	8.2	8.2	..	
68,239	124,644	128,408 ●	128,029	132,713	133,186	..	19
6.4	10.6	9.2 ●	8.2	8.3	8.0	..	
700	2,462	5,270 ●	6,053	6,002	6,688	..	20
587	610	778	858 ●	872	894	922	21
43,247	53,305	68,674	82,330 ●	86,018	88,158	93,271	22
9,657,517	12,926,043	19,798,448	23,655,377 ●	24,855,330	25,794,298	27,270,087	23
38,309,400	..	196,203,373	309,722,352 ●	347,356,269	393,400,881	..	24
31	39	59 ●	56	56	54	..	25
6,044	8,655	13,502 ●	13,756	13,596	13,220	12,031	26
1,924,289	3,227,640	4,640,217 ●	4,398,412	4,240,580	3,887,198	3,413,428	27
5,329,393	7,753,229	26,815,147 ●	31,132,850	32,003,164	32,189,682	..	28
52	54	63 ●	73	73	73	76	29
29,283	38,800	44,205 ●	53,943	54,951	54,487	57,425	30
10,662,343	16,078,250	19,708,905 ●	22,948,007	22,993,091	23,044,510	24,064,492	31
13,235,767	14,725,760	46,403,522 ●	68,047,648	76,942,032	85,301,953	..	32
..	309,465,461 ●	366,465,965	382,535,026	397,517,840	397,517,840	437,886,560	33
7,050,924 ⁹	28,472,475 ⁹	99,268,006 ⁹	353,205,333	366,218,474	379,111,374	473,859,103	34
..	1,067,239	3,901,109 ●	2,886,185	2,918,495	2,959,040	3,575,724	35
..	..	88,273,000 ●	257,629,000	215,206,000	231,296,000	385,076,000	36
31,542	42,646	40,289 ●	46,239	45,913	54,900	..	37
212,361	369,234	1,065,426 ●	1,837,814	2,127,737	2,168,181	..	38
115,417	178,322	243,040 ●	309,962	273,993	298,581	..	39

of newborn excluded.

⁸ Not all hospitals shown above furnished financial reports.⁹ Provinces contrib-

uted prior to 1952 but their contributions are not included.

¹⁰ Federal contribution only.¹¹ Includes

seasonal benefit payments from 1950.

¹² Years ended Sept. 30 prior to 1950; 1950 and subsequently, years

ended Dec. 31.

¹³ 1886 figures; first year available.

STATISTICAL SUMMARY OF THE PROGRESS OF CANADA—continued

	Item	1871	1881	1891	1901	1911	1921
Education—							
1	Total enrolment, all types.... No.	803,000	891,000	993,000	1,092,633	1,361,205	1,880,805
2	Teachers ²	13,559	18,016	23,718	27,126	40,516	56,607
3	Public expenditure on..... \$'000	..	..	..	11,045	37,971	112,977
Survey of Production—							
4	Net value..... \$'000	..	..	..	..	..	..
Agriculture—							
5	Area of occupied farms.... '000 acres	36,046	45,358	58,998	63,422	108,969	140,888
6	Improved lands.....	17,336	21,899	27,730	30,166	48,734	70,770
7	Cash income from the sale of farm products..... \$'000	..	..	..	..	..	..
FIELD CROPS—⁴							
8	Wheat..... '000 bu.	16,724	32,350	42,145	55,572	132,078	226,508
	\$'000	16,993	38,820	31,668	36,122	104,817	374,179
9	Oats..... '000 bu.	42,489	70,493	83,428	151,497	245,393	364,989
	\$'000	15,966	23,968	31,703	51,509	86,796	180,990
10	Barley..... '000 bu.	11,496	16,845	17,223	22,224	28,848	42,956
	\$'000	8,171	11,791	8,611	8,890	14,654	33,514
11	Corn..... '000 bu.	3,803	9,025	10,711	25,876	14,418	10,822
	\$'000	2,283	5,415	5,034	11,903	5,774	7,081
12	Potatoes..... '000 cwt.	28,398	33,221	32,095	33,218	33,277	37,338
	\$'000	15,212	13,289	21,396	13,841	27,427	44,636
13	Tame hay..... '000 ton	3,819	5,056	7,694	6,944	10,406	8,830
	\$'000	38,870	40,446	69,244	85,625	90,116	174,110
	Totals, Field Crops ⁵ '000 acres	..	..	15,663	19,764	30,556	47,553
	\$'000	111,117	155,277	194,767	237,682	384,514	933,046
LIVESTOCK AND POULTRY—⁶							
14	Horses..... '000	837	1,059	1,471	1,578	2,599	3,452
	\$'000	..	..	..	118,279	381,916	414,808
15	Milk cows..... '000	1,251	1,596	1,857	2,409	2,645	3,087
	\$'000	..	..	..	69,238	111,833	188,518
16	Other cattle..... '000	1,373	1,919	2,264	3,168	3,881	5,283
	\$'000	..	..	..	54,197	84,021	146,567
17	Sheep..... '000	3,156	3,049	2,564	2,510	2,174	3,201
	\$'000	..	..	..	10,491	10,702	20,675
18	Swine..... '000	1,366	1,208	1,734	2,354	3,635	3,324
	\$'000	..	..	..	16,446	26,987	35,869
19	All poultry..... '000	..	..	14,105	17,923	31,793	37,186
	\$'000	..	..	..	5,724	14,654	38,015
	Totals, Livestock and Poultry..... \$'000	..	..	..	274,375	630,113	844,452
DAIRYING—⁷							
20	Total milk production..... '000 lb.	..	..	..	6,866,834	9,806,741	11,897,545
21	Farm value of total milk production..... \$'000	..	..	..	66,471	103,382	161,829
Forestry—							
22	Primary forest production.... \$'000	..	..	..	..	..	168,054
23	Lumber production..... M ft. b.m.	..	..	..	..	4,918,202	2,869,307
	\$'000	..	..	..	..	75,831	82,449
24	Total sawmill products..... \$'000	..	..	..	..	..	116,891
25	Pulp and paper products..... \$'000	..	..	..	..	..	151,003
26	Exports of wood, wood products and paper ⁸ \$'000	..	..	25,351	33,100	56,335	284,561

¹ Estimated.² Up to 1941 includes teachers in provincially controlled ordinary and technical day schools only; subsequently all teachers.³ Includes the Yukon and Northwest Territories.⁴ Figures for the

decennial census years 1871-1921 are for the immediately preceding years; those for 1871 are for the four original

STATISTICAL SUMMARY OF THE PROGRESS OF CANADA—continued

1931	1941	1951	1955	1956	1957	1958	
2,264,106	2,131,391	2,922,931 ●	3,644,900 ¹	3,843,300 ¹	3,945,299	4,122,427	1
71,246	75,308	105,796 ●	126,370 ¹	135,350 ¹	151,839	155,182	2
144,749	129,817	513,442 ●	751,000 ¹	887,000 ¹	960,000 ¹	1,025,000 ¹	3
..	4,552,289	13,103,634 ●	15,769,632	17,705,514	..	..	4
163,114	173,563	174,047 ² ●	..	173,924 ³	..	..	5
85,732	91,636	96,853 ² ●	..	100,326 ³	..	..	6
471,913	880,849	2,782,750	2,350,198	2,641,873	2,575,301	2,786,887	7
312,325	314,710	553,678	519,178	573,040	370,508	..	8
123,550	192,642	856,785	709,461	714,053	442,570	..	9
328,278	306,052	493,886	399,451	524,517	380,599	..	9
77,970	125,657	374,941	265,749	300,234	226,858	..	10
67,383	110,401	245,435	251,102	269,065	215,993	..	10
17,465	47,296	270,237	219,143	211,336	165,030	..	11
5,449	13,672	15,900	35,558	27,814	29,613	..	11
2,274	9,868	28,500	37,699	33,377	34,950	..	12
52,305	37,039	29,928	40,191	42,325	44,077	..	12
22,359	46,234	101,189	71,032	74,274	76,302	..	13
14,540	14,443	20,190	20,186	19,655	19,188	..	13
110,110	178,638	307,118	303,837	302,698	295,177	..	13
58,862	55,103	60,835	60,512	60,848	60,216	..	14
435,966	678,899	2,140,631	1,792,202	1,854,120	1,405,557	..	14
3,114	2,789	1,304	832	782	730	675	14
205,087	184,550	94,132	75,867	74,384	74,657	75,363	15
3,372	3,626	2,973	3,151	3,160	3,147	3,129	15
160,655	191,214	741,356	460,980	447,057	452,196	572,927	16
4,601	4,891	5,390	7,453	7,851	8,149	7,872	16
94,952	138,196	852,236	674,436	668,119	716,689	882,975	17
3,627	2,840	1,634	1,634	1,620	1,661	1,696	17
19,680	17,039	38,267	27,726	25,983	27,653	30,354	18
4,700	6,081	4,914	4,800	4,731	4,857	6,164	18
33,288	54,912	185,395	132,915	115,064	153,791	213,261	19
65,468	63,526	64,541	65,019	73,052	77,168	82,624	19
45,138	27,444	84,010	76,144	79,729	79,021	90,051	19
558,800	613,354	1,995,396	1,448,068	1,410,336	1,504,007	1,864,931	20
14,339,686	16,068,037	15,309,971	16,946,447	16,966,242	17,306,028	18,057,136	20
139,769	205,278	465,270	495,573	503,821	532,110	569,753	21
141,124	225,616	821,022 ●	829,573	939,143	..	..	22
2,497,553	4,941,084	6,948,697 ●	7,920,033	7,739,603	7,099,758	..	23
45,978	129,288	507,650 ●	541,563	539,262	466,228	..	24
62,769	163,412	591,552 ●	644,483	639,414	555,688	..	24
174,734	334,726	1,237,897 ●	1,326,938	1,453,442 ⁸	1,411,934 ⁸	..	25
185,493	387,113	1,399,076 ●	1,520,921	1,514,832	1,456,125	..	26

provinces only.

² Includes other field crops, e.g., rye and flaxseed, not specified.⁶ On farms only.⁷ Figures for the decennial census years 1881-1911 are for the immediately preceding years.⁸ Value of factoryshipments. ⁹ Years ended Mar. 31 prior to 1931.

STATISTICAL SUMMARY OF THE PROGRESS OF CANADA—continued

	Item	1871	1881	1891	1901	1911	1921
Mineral Production—							
1	Gold.....oz. t.	105,187	63,524	45,018	1,167,216	473,159	926,329
	\$	2,174,412	1,313,153	930,614	24,128,503	9,781,077	19,148,920
2	Silver.....oz. t.	..	355,083 ¹	414,523	5,539,192	32,559,044	13,543,198
	\$	..	347,271 ¹	409,549	3,265,354	17,355,272	8,485,355
3	Copper.....lb.	..	3,260,424 ¹	9,529,401	37,827,019	55,648,011	47,620,820
	\$	..	366,798 ¹	1,226,703	6,096,581	6,886,998	5,953,555
4	Lead.....lb.	..	204,800 ¹	88,665	51,900,958	23,784,969	66,679,592
	\$	..	9,216 ¹	3,857	2,249,387	827,717	3,828,742
5	Zinc.....lb.	..	..	..	788,000 ²	1,877,479	53,089,356
	\$	..	..	..	36,011 ²	108,105	2,471,310
6	Nickel.....lb.	..	830,477 ³	4,035,347	9,189,047	34,098,744	19,293,060
	\$	..	498,286 ³	2,421,208	4,594,523	10,229,623	6,752,571
7	Coal.....ton	1,063,742 ⁴	1,537,106	3,577,749	6,486,325	11,323,388	15,057,493
	\$	1,763,423 ⁴	2,688,621	7,019,425	12,699,243	26,467,646	72,451,656
8	Natural gas.....M cu. ft.	..	..	..	..	..	14,077,601
	\$	..	..	150,000 ⁵	339,476	1,917,678	4,594,164
9	Petroleum, crude.....bbl.	..	368,987	755,298	622,392	291,092	187,541
	\$	..	..	1,010,211	1,008,275	357,073	641,533
10	Asbestos.....ton	..	..	9,279	40,217	127,414	92,761
	\$	..	..	999,878	1,259,759	2,943,108	4,906,230
11	Cement ⁶ bbl.	..	69,843 ⁷	93,479	450,394	5,692,915	5,752,885
	\$	..	81,909 ⁷	108,561	660,030	7,644,537	14,195,143
	Totals, Mineral Production ⁷ .. \$	..	10,221,255 ⁷	18,976,616	65,797,911	103,220,994	171,923,342
Water Power—							
12	Turbine installation.....h.p.	..	..	71,219	238,902	1,363,134	2,754,157
Electric Power Statistics—⁸							
13	Power stations.....No.	..	..	80	58	266	510
14	Capital invested.....\$	..	..	4,113,771	11,891,025	110,838,746	484,669,451
15	Power generated.....'000 kwh.	..	..	..	..	..	5,614,132
16	Customers.....No.	..	..	..	..	..	973,212
Fisheries—							
17	Marketed value of all products \$	7,573,199	15,817,162	18,977,874	25,737,153	34,667,872	34,931,935
Furs—							
18	Pelts taken ¹¹ No.	..	..	..	..	..	2,936,407
	\$	..	..	..	..	..	10,151,594
19	Value of animals on fur farms.. \$	..	..	..	..	..	5,977,545
Manufactures—							
20	Employees.....No.	187,942	254,935	369,595	339,173	515,203	438,555
21	Capital.....\$	77,964,020	165,302,623	353,213,000	446,916,487	1,247,583,009	2,697,858,073
22	Salaries and wages.....\$	40,851,009	59,429,002	100,415,350	113,249,350	241,008,416	497,399,761
23	Values of materials used in.....\$	124,907,846	179,918,593	250,759,292	266,527,858	601,509,018	1,365,292,885
Products—							
24	Gross ¹²\$	221,617,773	309,676,068	469,847,886	481,053,375	1,165,975,639	2,488,987,148
25	Net.....\$	96,709,927	129,757,475	219,088,594	214,525,517	564,466,621	1,123,694,263
Index of Industrial Production— (1949=100)							
26	Total Industrial Production.....	..	..	..	..	..	..
27	Mining.....	..	..	..	..	..	..
28	Manufacturing.....	..	..	..	..	..	..
29	Non-durables.....	..	..	..	..	..	..
30	Durables.....	..	..	..	..	..	..
31	Electric power and gas utilities.....	..	..	..	..	..	..
Construction—							
32	Values of contracts awarded... \$	..	..	..	..	345,425,000	240,133,300

¹ 1887. ² 1898. ³ 1889. ⁴ 1874. ⁵ 1892. ⁶ Beginning in 1956 tons. ⁷ Includes other items not specified. ⁸ Central electric stations prior to 1956. ⁹ New series beginning in

STATISTICAL SUMMARY OF THE PROGRESS OF CANADA—continued

1931	1941	1951	1955	1956	1957	1958	
2,693,892	5,345,179	4,392,751 ●	4,541,962	4,383,863	4,433,894	..	1
58,093,396	205,789,392	161,872,873 ●	156,788,528	151,024,080	148,757,143	..	
20,562,247	21,754,408	23,125,825 ●	27,984,204	28,431,847	28,823,298	..	2
6,141,943	8,323,454	21,865,467 ●	24,676,472	25,497,681	25,182,915	..	
292,304,390	643,316,713	539,941,589 ●	651,987,423	709,720,590	718,218,535	..	3
24,114,065	64,407,497	149,026,216 ●	239,756,455	292,958,091	206,897,988	..	
267,342,482	460,167,005	316,462,751 ●	405,525,038	377,708,904	362,968,529	..	4
7,260,183	15,470,815	58,229,146 ●	58,314,500	58,582,651	50,670,407	..	
237,245,451	512,381,636	682,224,335 ●	866,714,038	845,285,125	827,481,656	..	5
6,059,249	17,477,337	135,762,643 ●	118,306,466	125,437,344	100,042,533	..	
65,666,320	282,258,235	275,806,272 ●	349,856,997	357,030,311	375,916,551	..	6
15,267,453	68,656,795	151,269,994 ●	215,866,007	222,204,860	258,977,309	..	
12,243,211	18,225,921	18,586,823 ●	14,818,880	14,915,610	13,189,155	..	7
41,207,682	58,059,630	109,038,835 ●	93,579,471	95,349,763	90,220,670	..	
25,874,723	43,495,353	79,460,667 ●	150,772,312	169,152,586	220,006,682	..	8
9,026,754	12,665,116	7,158,920 ●	15,098,508	16,849,556	20,962,501	..	
1,542,573	10,133,838	47,615,534 ●	129,440,247	171,981,413	181,848,004	..	9
4,211,674	14,415,096	116,655,238 ●	305,640,036	406,561,872	453,593,620	..	
164,296	477,846	973,198 ●	1,063,802	1,014,249	1,046,086	..	10
4,812,886	21,468,840	81,584,345 ●	96,191,317	99,859,969	104,489,431	..	
10,161,658	8,368,711	17,007,812 ●	25,168,464	5,021,683 ^a	6,049,098	..	11
15,826,243	13,063,588	40,446,288 ●	65,650,025	75,233,321	93,167,477	..	
230,434,726	560,241,290	1,245,483,595 ●	1,795,310,796	2,084,905,554	2,190,322,392	..	
6,666,337	8,845,038	13,342,504 ●	17,511,148	18,356,148	19,891,008	22,379,626	12
559	607	647 ●	..	..	..	..	13
1,229,988,951	1,641,460,451	..	..	..	..	..	14
16,330,867	33,317,663	54,851,844 ●	72,910,592	88,366,063 ^a	91,030,880	..	15
1,632,792	2,081,270	3,439,750 ●	4,224,901 ¹⁰	4,424,644	4,611,178	..	16
30,517,306	62,258,997	204,912,000 ●	184,169,000	198,252,000	..	..	17
4,060,356	7,257,337	7,479,272	9,670,796 ●	7,727,264	6,919,724	6,440,319	18
11,803,217	21,123,161	31,134,400	30,509,515 ●	28,051,746	25,592,130	26,335,109	19
8,497,237	7,928,971	10,195,561	15,008,081 ●	12,765,000	..	..	
528,640	961,178	1,258,375 ●	1,298,461	1,353,020	1,359,061	..	20
3,705,701,893	4,905,503,966	..	..	..	..	..	21
587,566,990	1,264,862,643	3,276,280,917 ●	4,142,409,534	4,570,692,190	4,819,627,999	..	22
1,221,911,982	3,296,547,019	9,074,526,353 ●	10,338,202,165	11,721,536,889	11,900,751,703	..	23
2,555,126,448	6,076,308,124	16,392,187,132 ●	19,513,933,811	21,636,748,986	22,183,594,311	..	24
1,252,017,248	2,605,119,788	6,940,946,783 ●	8,753,450,496	9,605,424,579	9,822,084,726	..	25
..	80.1	116.6 ●	142.3	154.9	155.4	152.6	26
..	101.0	123.4 ●	185.2	212.3	227.8	228.5	27
..	78.7	115.0 ●	134.7	145.1	142.9	138.4	28
..	73.7	110.8 ●	130.4	138.1	139.7	139.6	29
..	85.8	119.9 ●	139.7	153.3	146.7	137.0	30
..	64.2	129.4 ●	183.3	204.9	220.3	238.4	31
315,482,000	393,991,300	2,295,499,200 ●	3,183,592,000	3,426,905,500	2,894,168,100	3,593,709,200	32

1956. ¹⁰ Beginning in 1955 only ultimate customers are included.
 1952 gross value of products was replaced by value of factory shipments.

¹¹ Years ended June 30.

¹² In

STATISTICAL SUMMARY OF THE PROGRESS OF CANADA—continued

	Item	1871	1881	1891	1901	1911	1921
Transportation—							
RAILWAYS—							
1	Miles in operation..... No.	2,695	7,194	13,838	18,140	25,400	39,191
2	Capital liability..... \$	257,035,188 ¹	284,419,293	632,061,440	816,110,837	1,528,689,201	2,164,687,636
3	Passengers..... No.	5,190,416 ²	6,943,671	13,222,568	18,385,722	37,097,718	46,793,251
4	Freight..... ton	5,670,836 ²	12,065,323	21,753,021	36,999,371	79,834,282	83,730,829
5	Earnings..... \$	19,470,540 ²	27,987,509	48,192,099	72,898,749	188,733,494	458,008,891
6	Expenses..... \$	15,775,532 ²	20,121,418	34,960,449	50,368,726	131,033,785	422,581,205
URBAN TRANSIT SYSTEMS—							
7	Passengers carried..... No.	..	..	..	..	..	..
8	Vehicle-miles run..... "	..	..	..	..	..	..
9	Gross passenger revenue..... \$	..	..	..	..	..	..
ROAD TRANSPORTATION—							
10	Highways, total milages ⁴ No.	..	..	..	..	21,783	464,805
11	Motor vehicles registered..... "	..	..	..	..	..	..
SHIPPING—							
12	Vessels on the registry..... No.	..	7,394	7,015	6,697	8,088	7,482
	ton	..	1,310,896	1,005,475	666,276	770,446	1,223,973
International Sea-borne—^{5,6}							
13	Entered..... ton	6,576,771	6,967,449	9,372,369	13,235,307	25,205,441	27,344,957
14	Cleared..... "	6,549,257	6,834,983	9,430,279	12,794,501	22,224,104	27,303,673
15	Totals..... "	13,126,028	13,802,432	18,802,648	26,029,808	47,429,545	54,648,630
Coastwise—⁵							
16	Entered..... ton	..	7,664,863	12,835,774	17,927,959	34,280,669	28,567,545
17	Cleared..... "	..	7,451,903	12,150,356	16,516,837	32,347,265	27,773,668
18	Totals..... "	..	15,116,766	24,986,130	34,444,796	66,627,934	56,341,213
CANALS—							
19	Passengers carried..... No.	100,377	118,136	146,336	190,428	304,904	230,129
20	Freight..... ton	3,955,621	2,853,230	2,902,526	5,665,259	38,030,353	9,407,021
AIR TRANSPORTATION—⁷							
21	Miles flown (revenue)..... No.	..	..	..	..	..	294,449
22	Passenger miles (revenue)..... "	..	..	..	..	..	..
23	Freight carried (revenue)..... lb.	..	..	..	..	..	79,850
24	Mail carried..... "	..	..	..	..	..	..
Communications—							
25	Telegraphs, miles of line..... No.	..	1,947	30,565	35,938	42,351	52,784
26	Telephones..... "	..	..	..	63,192	302,759 ⁸	902,090
27	Telephones, employees ⁹ "	..	..	..	..	10,425 ⁸	19,943
Post Office—							
28	Revenue..... \$	803,637	1,344,970	2,515,824	3,421,192	9,146,952	26,331,119
29	Expenditure..... \$	994,876	1,876,658	3,161,676	3,837,376	7,954,223	24,861,262
30	Money orders issued..... \$	4,546,434	7,725,212	12,478,178	17,956,258	70,614,862	173,523,322
Wholesale and Retail Trade—							
Wholesale—							
31	Establishments..... No.	..	..	..	..	..	..
32	Employees..... "	..	..	..	..	..	..
33	Net sales..... \$	..	..	..	..	..	..
34	Retail—Stores..... No.	..	..	..	..	..	..
35	Employees, full-time..... "	..	..	..	..	..	..
36	Net sales..... \$'000	..	..	..	..	..	..

¹ 1876.² 1875.³ Includes highway transport (rail) operations.⁴ Fiscal years.⁵ Fiscal

years prior to 1941.

⁶ Includes sea-going and inland international.⁷ Includes Atlantic and Pacific

overseas services of Canadian carriers from 1951.

⁸ As at June 30.⁹ Excludes rural lines in Saskatchewan.

STATISTICAL SUMMARY OF THE PROGRESS OF CANADA—continued

1931	1941	1951	1955	1956	1957	1958	
42,280	42,441	42,956 ●	43,444	43,652	43,890	44,125	1
4,232,022,088	3,397,488,564	3,571,693,932 ●	4,108,574,616	4,185,193,864	4,330,219,893	..	2
26,396,812	29,779,241	30,995,604 ●	27,229,962	26,070,766	22,965,974	..	3
74,129,694	116,808,091	161,260,521 ●	167,862,156	189,608,272	174,163,028	..	4
358,549,382	538,291,947	1,088,583,789 ●	1,198,351,601	1,398,237,823 ³	1,365,464,639 ³	..	5
321,025,588	403,733,542	977,577,062 ●	1,048,564,681	1,264,123,717 ³	1,302,028,581 ³	..	6
..	..	..	1,178,952,495	1,151,928,811	1,125,608,597	..	7
..	..	..	198,885,300	203,888,474	204,031,286	..	8
..	..	..	126,043,198	129,213,139	133,039,879	..	9
378,094	561,489	511,878 ●	455,404	453,582	423,939	..	10
1,200,668	1,572,784	2,872,420 ●	3,948,652	4,226,474	4,459,595	4,675,560	11
8,966	8,667	15,292 ●	17,188	17,653	18,294	18,797	12
1,484,423	1,271,811	1,659,351 ●	1,682,949	1,709,641	1,730,139	1,754,382	13
45,834,452	31,452,400	47,508,342 ●	58,018,365	63,105,100	66,149,552	..	14
45,077,424	33,313,400	52,750,461 ●	60,306,168	67,415,232	68,822,187	..	15
90,911,876	64,765,800	100,258,803 ●	118,324,533	130,520,332	134,971,739	..	16
47,134,652	48,107,158	60,802,798 ●	67,228,840	75,220,366	76,535,160	..	17
47,540,555	46,433,320	55,609,082 ●	64,889,982	76,857,713	73,565,370	..	18
94,675,207	94,540,478	116,411,880 ●	132,118,822	152,078,079	150,100,530	..	19
126,633	100,092	93,512	173,932	123,241	98,464	145,562	20
16,189,074	23,453,367	29,325,034	34,874,198	40,016,565	37,230,349	35,096,587	21
7,046,276	12,508,390	52,578,934 ●	83,805,304	101,723,710	104,699,140	..	22
4,073,552	56,723,714	689,819,451 ●	1,223,825,448	1,547,279,882	1,835,183,870	..	23
2,372,467	16,559,611	59,199,354 ●	233,561,830	319,260,401	264,812,177	..	24
470,461	3,411,971	16,824,652 ●	26,616,505	27,914,288	31,413,504	..	25
53,228	52,246	53,580 ●	48,067	48,062	48,379	47,495	26
1,364,200	1,562,146	3,113,766 ●	4,151,678	4,499,325	4,827,135	..	27
23,825	20,103	47,387 ●	55,673	60,121	64,074	..	28
30,416,107	40,383,366	90,454,678 ●	131,315,049	137,696,621	145,823,785	152,919,881	29
36,292,604	38,699,674	91,781,466 ●	123,611,055	127,421,739	139,992,921	153,819,782	30
167,749,651	173,565,550	511,915,621 ●	690,824,787	725,930,733	799,615,004	845,647,439	31
13,140 ¹⁰	24,758	26,167 ●	..	..	..	..	32
90,564 ¹⁰	117,471	178,658 ¹¹ ●	..	..	..	..	33
3,325,210,300 ¹⁰	5,290,751,000	224,526 ¹² ●	..	..	..	..	34
124,608 ¹⁰	136,990	153,034	..	..	..	..	35
238,683 ¹⁰	297,047	454,794 ¹¹ ●	..	..	..	..	36
2,735,740 ¹⁰	3,414,613	603,891 ¹² ●	13,111,895 ¹³	14,297,657 ¹³	14,826,441 ¹³	15,262,003 ¹³	37

¹⁰ Census figures for 1930. intercensal survey.¹¹ Average minimum.¹² Average maximum.¹³ Estimated on

STATISTICAL SUMMARY OF THE PROGRESS OF CANADA—continued

Item	1871	1881	1891	1901	1911	1921
Wholesale and Retail Trade—concl.						
Services—						
1 Establishments..... No.	..	..	..	..	..	..
2 Employees..... "	..	..	..	..	..	..
3 Receipts..... \$	..	..	..	..	..	..
4 Bankruptcies and Insolvencies ¹ No.	..	..	..	..	..	..
5 Liabilities..... \$'000	..	..	..	..	..	..
Foreign Trade—²						
6 Exports, domestic..... \$'000	57,630	83,945	88,672	177,431	274,317	1,189,164
7 Re-exports..... \$'000	9,853	13,375	8,799	17,078	15,684	21,264
8 Imports, for consumption..... \$'000	84,214	90,488	111,534	177,931	452,725	1,240,159
Totals, Foreign Trade..... \$'000	151,698	187,808	209,004	372,440	742,725	2,450,587
9 Domestic exports to all Commonwealth..... \$'000	25,346	45,980	47,137	100,748	148,967	403,452
10 Exports to United Kingdom..... \$'000	21,734	42,637	43,244	92,858	132,157	312,845
11 Imports from all Commonwealth..... \$'000	51,317	45,514	44,337	46,653	129,468	266,003
12 Imports from United Kingdom..... \$'000	48,498	42,885	42,019	42,820	109,935	213,974
13 Exports to United States..... \$'000	29,164	34,038	37,743	67,984	104,116	542,323
14 Imports from United States..... \$'000	27,186	36,339	52,033	107,378	275,824	856,177
15 Exports to other countries..... \$'000	3,120	3,926	3,791	8,700	21,233	243,389
16 Imports from other countries..... \$'000	5,712	8,635	15,163	23,900	47,433	117,979
EXPORTS, DOMESTIC, BY CHIEF ITEMS—						
17 Wheat..... '000 bu.	1,749	2,524	2,108	9,740	45,802	129,215
\$'000	1,982	2,594	1,583	6,872	45,521	310,952
18 Wheat flour..... '000 bbl.	306	440	297	1,119	3,049	6,047
\$'000	1,610	2,173	1,389	4,015	13,855	66,520
19 Oats..... '000 bu.	542	2,927	261	8,155	5,432	14,321
\$'000	231	1,192	130	2,491	2,145	14,152
20 Barley..... '000 bu.	..	8,811	4,892	2,386	1,545	8,564
\$'000	..	6,261	2,930	1,123	831	11,469
21 Bacon, hams, shoulders and sides..... '000 cwt.	103	104	76	1,055	599	982
\$'000	1,019	758	628	11,778	8,526	31,492
22 Beef and veal..... '000 cwt.	41	14	3	97	10	520
\$'000	241	84	16	813	92	8,331
23 Cheese..... '000 lb.	8,271	49,256	106,202	195,926	181,896	133,620
\$'000	1,110	5,510	9,509	20,697	20,740	37,147
24 Planks and boards..... M ft.	829,550	652,621	775,793	735,695	1,127,723	1,604,463
\$'000	8,356	7,102	8,627	9,381	21,510	17,079
25 Wood pulp..... '000 cwt.	..	..	..	..	6,589	14,363
\$'000	..	..	281	1,937	5,716	17,552
26 Newsprint..... '000 cwt.	..	..	..	..	..	15,113
\$'000	..	..	..	..	3,092	78,922
27 Farm implements..... '000	..	31	253	1,743	5,912	12,527
28 Copper..... '000 lb.	6,246	39,604	10,994	26,346	55,005	74,176
\$'000	120	150	505	2,659	5,575	12,748
29 Nickel..... '000 lb.	..	..	5,352	9,538	34,768	47,018
\$'000	..	..	240	958	3,842	9,405
30 Lead..... '000 cwt.	?	..	..	656	32	111
\$'000	?	..	?	2,517	101	526
31 Zinc..... '000 cwt.	..	..	..	..	..	177
\$'000	..	..	..	..	..	964
32 Asbestos..... '000 ton	..	..	7	27	70	191
\$'000	..	..	514	865	2,076	12,633
EXPORTS, DOMESTIC, BY GROUP—						
33 Vegetable products (except chemicals, fibres and wood) \$'000	..	..	13,743	25,542	84,368	482,140
34 Animals and their products (except chemicals and fibres) \$'000	..	..	36,399	68,465	69,693	188,360
35 Fibres, textiles and textile products..... \$'000	..	..	873	1,881	1,819	18,784
36 Wood, wood products and paper..... \$'000	..	..	25,351	33,100	56,335	284,561
37 Iron and its products..... \$'000	..	..	557	3,779	9,884	76,501
38 Non-ferrous metals and their products..... \$'000	..	..	1,619	33,395	34,001	45,939
39 Non-metallic minerals and their products (except chemicals)..... \$'000	..	..	3,989	7,356	10,038	40,345
40 Chemicals and allied products \$'000	..	..	851	792	3,089	20,143
41 All other commodities..... \$'000	..	..	5,291	3,122	5,089	32,390
Totals, Exports, Domestic. \$'000	57,630	83,945	88,672	177,431	274,317	1,189,164

¹ Census figures for 1930.² Figures include 5,542 hotels with 46,556 average minimum and 64,062 average maximum full-time employees and with receipts of \$348,401,100.³ Average minimum.⁴ Average

STATISTICAL SUMMARY OF THE PROGRESS OF CANADA—continued

1931	1941	1951	1955	1956	1957	1958	
42,223 ¹	49,271	58,748 ² ●	..	..	..	..	1
55,257 ¹	62,781	143,800 ² ●	..	..	..	..	2
249,455,900 ¹	254,678,000	190,048 ² ●	..	..	..	..	3
..	..	1,085,757,900 ●	..	..	..	..	4
..	..	..	1,795 ●	1,967	2,213 ³	2,070	5
..	..	..	53,776 ●	64,254 ³	79,862 ³	60,011	6
587,653	1,621,003	3,914,460 ●	4,281,784	4,789,746	4,839,094	4,826,385	7
11,907	19,451	48,924 ●	69,499	73,397	98,286	101,997	8
628,098	1,448,792	4,084,856 ●	4,712,370	5,705,449	5,623,410	5,192,351	9
1,227,659	3,089,246	8,048,241 ●	9,063,653	10,568,592	10,557,791	10,120,732	10
219,781	878,641	872,407 ●	1,006,437	1,055,922	970,648	1,058,667	11
170,597	658,228	631,461 ●	769,313	812,706	737,530	775,896	12
152,000	359,942	727,089 ●	610,303	705,911	760,819	736,512	13
109,468	219,419	420,985 ●	400,531	484,679	521,958	526,650	14
240,197	599,713	2,297,675 ●	2,559,343	2,818,655	2,867,608	2,828,398	15
393,775	1,004,498	2,812,927 ●	3,452,178	4,161,667	3,998,549	3,572,379	16
127,675	142,649	744,379 ●	716,004	915,169	1,000,838	939,320	17
82,323	84,351	544,840 ●	649,889	837,871	864,042	883,460	18
194,826	196,646	237,061 ●	189,967	302,770	232,461	271,796	19
117,871	161,856	441,043 ●	338,216	513,081	380,415	446,078	20
5,697	11,439	12,079 ●	8,601	8,583	7,610	8,789	21
20,207	44,807	113,854 ●	74,442	71,549	61,175	69,398	22
11,177	7,692	59,273 ●	12,529	10,112	29,941	16,957	23
3,768	3,295	53,899 ●	11,930	9,316	22,390	13,016	24
24,260	3,209	43,906 ●	63,906	81,095	61,377	74,623	25
9,924	1,959	58,822 ●	76,461	94,977	67,522	78,118	26
128	4,646	61 ●	99	80	47	56	27
2,035	77,494	3,650 ●	6,463	5,663	4,138	4,430	28
37	62	934 ●	87	128	474	537	29
430	996	50,965 ●	2,721	3,644	13,355	20,185	30
84,788	92,331	30,653 ●	13,749	12,216	8,456	15,701	31
10,595	13,555	10,232 ●	4,045	4,178	3,079	5,002	32
937,733	2,282,139	3,435,510 ●	4,603,164	3,936,161	3,635,497	3,922,953	33
20,116	74,205	312,198 ●	385,313	326,445	281,681	292,013	34
12,451	28,234	44,866 ●	47,323	47,480	45,653	44,386	35
30,057	85,898	365,133 ●	297,304	304,536	292,406	285,449	36
40,165	65,240	102,241 ●	115,263	119,344	118,013	113,657	37
107,233	154,357	536,372 ●	665,877	708,385	715,490	690,209	38
2,889	30,972	106,438 ●	76,010	67,477	69,676	97,594	39
196,789	430,087	304,193 ●	459,706	480,729	534,613	555,658	40
17,065	40,951	81,691 ●	163,924	194,206	162,109	137,113	41
63,529	275,190	262,366 ●	347,759	353,676	357,515	248,253	42
14,182	67,680	136,689 ●	215,169	222,909	308,440	212,580	43
2,208	3,818	2,536 ●	3,030	2,596	2,681	2,937	44
4,660	13,525	45,290 ●	37,202	35,034	29,396	26,099	45
2,391	3,988	6,105 ●	8,198	7,770	7,890	8,382	46
5,565	12,278	83,669 ●	70,558	74,011	64,921	55,385	47
159	454	942 ●	1,002	964	1,031	867	48
5,175	19,411	80,333 ●	94,804	99,895	107,058	90,745	49
209,761	285,709	894,210 ●	752,348	974,964	831,579	885,339	50
70,938	201,731	348,033 ●	263,621	260,249	302,051	397,695	51
5,394	30,820	36,858 ●	22,816	22,568	27,162	20,660	52
185,493	387,113	1,399,076 ●	1,520,921	1,514,458	1,456,125	1,413,989	53
19,086	239,901	342,299 ●	398,782	458,849	518,835	432,433	54
56,159	244,012	569,870 ●	852,923	959,471	1,006,186	1,026,644	55
14,977	45,172	131,529 ●	206,200	292,100	347,705	250,351	56
10,849	58,676	131,690 ●	183,507	182,854	195,303	197,051	57
14,995	127,869	60,895 ●	80,666	124,233	154,147	202,221	58
587,653	1,621,003	3,914,460 ●	4,281,784	4,789,746	4,839,094	4,826,385	59

maximum.

¹ Under federal legislation.² Fiscal years prior to 1931.³ Less than \$500.

STATISTICAL SUMMARY OF THE PROGRESS OF CANADA—continued

	Item	1871	1881	1891	1901	1911	1921
Foreign Trade—concluded							
Imports for consumption—							
1	Vegetable products (except chemicals, fibres and wood) \$'000	..	..	24,212	38,036	79,214	259,431
2	Animals and their products (except chemicals and fibres) \$'000	..	..	8,081	14,023	30,672	61,722
3	Fibres, textiles and textile products \$'000	..	..	28,670	37,285	87,916	243,608
4	Wood, wood products and paper \$'000	..	..	5,203	8,197	26,852	57,449
5	Iron and its products \$'000	..	..	15,143	29,956	91,968	245,626
6	Non-ferrous metals and their products \$'000	..	..	3,811	7,167	27,580	55,651
7	Non-metallic minerals and their products (except chemicals) \$'000	..	..	14,139	21,255	53,431	206,095
8	Chemicals and allied products \$'000	..	..	3,698	5,685	12,472	37,887
9	All other commodities \$'000	..	..	8,577	16,327	42,620	72,688
	Totals, Imports \$'000	84,214	90,488	111,534	177,931	452,725	1,240,159
Prices—							
10	Wholesale indexes (1935-39=100)...	81.3	72.4	67.1	63.7	81.1	143.4
11	Consumer price index (1949=100)...	..	..	..	..	..	80.9
Federal Finance—¹							
12	Customs duties \$	11,841,105	18,406,092	23,305,218	28,293,930	71,835,089	163,266,804
13	Excise duties \$	4,295,945	5,343,022	6,914,850	10,318,266	16,869,837	37,118,367
14	Income tax \$	...	...	...	...	...	46,381,824
15	Sales tax (net) \$	...	...	...	...	...	38,114,539
16	Total receipts from taxation \$	16,320,369	23,942,139	30,220,068	38,612,196	88,707,926	368,776,498*
17	Per capita receipts from taxes \$	4.50	5.63	6.32	7.28	12.69	43.10
18	Total revenue \$	19,335,861	29,635,298	38,579,311	52,514,701	117,780,409	436,292,185
19	Revenue per capita \$	5.34	6.96	8.07	9.91	16.87	50.99
20	Total expenditure \$	19,293,478	33,796,643	40,793,208	57,982,866	122,861,250	528,302,513
21	Expenditure per capita \$	5.32	7.94	8.54	10.94	17.58	61.75
22	Gross debt \$	115,492,683	199,861,537	289,899,230	354,732,433	474,941,487	2,902,482,117
23	Net assets \$	37,786,165	44,465,757	52,090,199	86,252,429	134,899,435	561,603,133
24	Net debt \$	77,706,518	155,395,780	237,809,031	268,480,004	340,042,052	2,340,878,984
Provincial Finance—¹							
25	Gross ordinary revenue \$	5,518,946	7,858,698	10,693,815	14,074,991	40,706,948	102,030,458
26	Gross ordinary expenditure \$	4,935,008	8,119,701	11,628,353	14,146,059	38,144,511	102,569,515
Municipal Finance—⁴							
27	Gross ordinary revenue \$	..	..	..	..	..	..
28	Gross ordinary expenditure \$	..	..	..	..	..	..
National Accounts—							
29	National income \$'000,000	..	..	..	..	..	..
Note Circulation—							
30	Chartered bank notes \$	20,914,637	28,516,692	33,061,042	50,601,205	89,982,223	194,621,710
31	Bank of Canada and other notes \$	7,244,341	14,539,795	16,176,316	27,898,509	99,308,945	271,531,162
Chartered Banks—							
32	Capital, paid-up \$	37,095,340	59,534,977	60,700,697	67,035,615	103,009,256	129,096,329
33	Assets \$	125,273,631	200,613,879	269,307,032	531,829,324	1,303,131,260	2,841,782,079
34	Liabilities to the public \$	80,250,974	127,176,249	187,332,325	420,003,743	1,097,661,393	2,556,454,190
35	Deposits payable on demand \$	..	..	..	95,169,631	304,801,755	551,914,643
36	Deposits payable after notice \$	..	..	..	221,624,664	568,976,209	1,289,347,063
37	Totals, deposits ^{5, 10} \$	56,287,391	94,346,481	148,396,968	349,573,327	980,433,788	2,264,586,738
38	Cheque payments \$'000	..	..	..	..	..	27,157,474 ¹¹
Savings Banks—¹							
39	Deposits in Post Office \$	2,497,260	6,208,227	21,738,648	39,950,813	43,330,579	29,010,619
40	Deposits in Government banks \$	2,072,037	9,628,445	17,661,378	16,098,146	14,673,752	10,150,189
41	Deposits in special banks \$	5,766,712	7,685,888	10,982,232	19,125,097	34,770,386	58,576,775
Loan Companies (Federal)—							
42	Assets \$	8,392,464	73,906,638	125,041,146	158,523,307	389,701,988	96,698,810
43	Liabilities \$	8,392,958	71,965,017	123,915,704	158,523,307	389,701,988	95,281,122
Loan Companies (Provincial)—							
44	Assets \$	..	..	..	..	..	86,144,153 ¹²
45	Liabilities \$	..	..	..	..	..	87,385,807 ¹²

¹ Unless otherwise stated, figures are for fiscal years ended within years given.² Old Age Security taxes

and pensions which commenced on Jan. 1, 1952, not included for 1955 and subsequent years.

³ Figures for 1955 and subsequent years are not comparable with previous years as they exclude refunds applicable to other excise duties.⁴ Includes Yukon Territory in this and subsequent years.⁵ Includes the Northwest Territories in this and subsequent years.⁶ Fiscal years ended Dec. 31.⁷ In January 1950, the

STATISTICAL SUMMARY OF THE PROGRESS OF CANADA—continued

1931	1941	1951	1955	1956	1957	1958	
134,433	171,835	542,641 ●	587,475	628,777	652,225	652,686	1
25,630	34,846	125,562 ●	107,802	122,154	124,617	128,993	2
90,152	161,139	483,520 ●	381,613	416,390	408,651	387,297	3
34,923	36,739	137,047 ●	195,958	228,208	225,888	235,608	4
116,209	431,622	1,332,251 ●	1,605,968	2,231,354	2,131,030	1,852,174	5
38,667	94,758	290,848 ●	398,793	491,539	484,863	432,178	6
106,088	189,954	684,535 ●	663,684	765,971	777,661	682,854	7
31,337	65,382	191,813 ●	260,499	288,587	293,821	290,358	8
47,659	262,516	296,638 ●	530,578	532,469	524,656	530,204	9
628,098	1,448,792	4,084,856 ●	4,712,370	5,705,449	5,623,410	5,192,351	
94.0	116.4	240.2	218.9	225.6	227.4	227.8	10
67.9	69.6	113.7	116.4	118.1	121.9	126.1	11
131,208,955	130,757,011	295,721,750 ●	397,228,330	481,239,668	549,074,860	498,068,539	12
57,746,808	88,607,559	241,046,174 ●	226,458,438	249,383,313	271,443,661	300,132,512	13
71,048,022	248,143,022	1,513,135,510 ●	2,265,297,267 ^a	2,279,503,232	2,745,199,494	2,798,929,195	14
20,783,944	179,701,224	460,120,405 ●	572,214,713 ^a	641,510,469	717,080,563	703,169,768	15
296,276,396	778,175,450	2,785,349,899 ●	3,773,438,080	3,995,721,170	4,647,931,771	4,622,827,382	16
IV.02	68.37	203.13 ●	248.33	256.12	289.03	278.67	17
356,160,876	872,169,645	3,112,535,948 ●	4,123,513,300	4,400,046,639	5,106,540,880	5,048,788,279	18
35.04	76.63	226.99 ●	271.37	282.04	317.55	304.35	19
440,008,855	1,249,601,446	2,901,241,698 ●	4,275,362,888 ^a	4,433,127,636	4,849,035,298	5,087,411,011	20
43.26	109.80	211.58 ●	281.36	284.16	301.54	306.67	21
1,610,265,699	5,018,928,037	16,923,307,028 ●	17,951,491,464	19,124,232,779	18,326,190,715	18,418,541,848	22
348,653,762	1,370,236,588	5,489,992,080 ●	6,688,411,310	7,843,863,815	7,318,539,557	7,372,267,958	23
2,261,611,937	3,648,691,449	11,433,314,948 ●	11,263,080,154	11,280,368,964	11,007,651,158	11,046,273,890	24
179,143,480	404,791,000 ^a	1,139,026,000 ●	1,558,734,000 ^a	1,771,239,000	1,966,714,000	..	25
190,754,202	349,818,000 ^a	1,040,871,000 ●	1,411,740,000 ^a	1,588,396,000	1,779,033,000	..	26
..	..	758,237,000 ●	1,116,039,000	1,244,823,000	1,396,669,000 ^a	..	27
..	..	748,039,000 ●	1,111,287,000	1,244,964,000	1,385,639,000 ^a	..	28
3,382	6,305	16,588 ●	20,737	23,166	23,860	24,673	29
128,881,241	78,761,049	7	7	7	7	7	30
153,079,362	406,433,409	1,360,679,422	1,788,490,823	1,868,703,781	1,903,721,000	1,998,046,000	31
144,674,853	145,500,000	146,502,115 ●	180,998,000 ^a	195,348,000	211,879,000	225,609,000	32
3,066,018,472	4,008,381,256	9,384,800,263 ●	12,701,736,000 ^a	13,427,896,000	14,243,504,000	15,840,274,000	33
2,741,554,219	3,711,870,680	9,019,780,755 ●	12,146,344,000 ^a	12,780,895,000	13,520,067,000	15,034,123,000	34
578,604,394	1,088,198,370	2,711,524,845 ●	3,915,196,000 ^a	4,180,355,000	4,095,483,000	4,635,915,000	35
1,437,976,832	1,616,129,007	4,592,929,318 ●	6,096,401,000 ^a	6,451,347,000	6,655,435,000	7,462,063,000	36
2,422,834,828	3,464,781,844	8,464,510,837 ●	11,904,011,000 ^a	12,531,329,000	13,234,001,000	14,766,738,000	37
31,586,468	39,242,957	112,184,633 ●	161,350,878	192,289,896	205,558,447	221,289,954	38
24,750,227	22,176,633	37,661,921 ●	36,780,667	36,164,460	35,918,499	34,895,729 ^a	39
69,820,422	76,391,775	193,982,871	237,816,198	256,526,482	255,000,311	266,585,424	40
147,094,183	130,795,391	203,103,850	281,004,269	296,715,805	320,144,380	..	41
146,046,087	130,787,116	165,768,886	245,606,324	258,245,799	280,238,094	..	42
65,728,238	58,220,073	88,991,635	129,589,371	140,453,366	228,927,416	..	43
66,387,987	58,220,073	63,699,805	97,917,400	105,577,295	160,429,357	..	44

chartered banks' liability for such of their notes as then remained outstanding was transferred to the Bank of Canada.

^a As at June 30 from 1871 to 1901. Annual averages of month-end figures from 1911 to 1951. As at Dec. 31 for 1955 and subsequent years.

^b Figures for 1955 and subsequent years not strictly comparable with previous years.

^c Includes deposits of federal and provincial governments and also deposits elsewhere than in Canada from 1901.

^d 1924.

^e 1922.

STATISTICAL SUMMARY OF THE PROGRESS OF CANADA—concluded

	Item	1871	1881	1891	1901	1911	1921
Licensees under the Small Loans Act—							
SMALL LOANS COMPANIES—							
1	Assets..... \$	..	..	..	..	..	..
2	Liabilities..... \$	..	..	..	..	..	..
MONEY-LENDERS—							
3	Assets..... \$	..	..	..	..	..	..
4	Liabilities..... \$	..	..	..	..	..	..
Trust Companies (Federal)—							
ASSETS—							
5	Company funds..... \$	..	..	..	..	..	10,237,930
6	Guaranteed funds..... \$	..	..	..	..	..	8,774,185
LIABILITIES—							
7	Company funds..... \$	..	..	..	..	..	9,907,331
8	Guaranteed funds..... \$	..	..	..	..	..	8,549,642
9	ESTATES, TRUST AND AGENCY FUNDS..... \$	..	..	..	..	..	79,252,639
Trust Companies (Provincial)—³							
ASSETS—							
10	Company funds (par value)... \$	..	..	..	..	..	31,418,403
11	Guaranteed funds (par value).. \$	..	..	..	..	..	32,885,302
12	ESTATES, TRUST AND AGENCY FUNDS..... \$	..	..	..	..	..	629,953,917
Dominion Fire Insurance—⁴							
13	Amounts at risk, Dec. 31..... \$	228,453,784	462,210,968	759,602,191	1,038,687,619	2,279,868,346	6,020,513,832
14	Premium income for each year \$	2,321,716	3,827,116	6,168,716	9,650,348	20,575,255	47,312,564
15	Claims paid during each year. \$	1,549,199	3,169,824	3,905,697	6,774,956	10,936,948	27,572,560
Provincial Fire Insurance—							
16	Amounts at risk, Dec. 31..... \$	..	..	..	..	..	1,269,764,435
17	Premium income for each year \$	..	..	..	..	..	5,545,549
18	Claims paid during each year. \$	..	..	..	..	..	3,544,820
Dominion Life Insurance—⁴							
19	Amounts in force, Dec. 31..... \$	45,825,935	103,290,932	261,475,229	463,769,034	950,220,771	2,934,843,848
20	Premium income for each year \$	1,852,974	3,094,689	8,417,702	15,189,854	31,619,626	98,864,371
21	Claims paid during each year. \$	..	..	..	6,845,941	11,051,679	23,997,262
Provincial Life Insurance—							
22	Amounts in force, Dec. 31..... \$	..	..	..	..	..	222,871,178
23	Premium income for each year \$	..	..	..	..	..	4,389,008
24	Claims paid during each year. \$	..	..	..	..	..	2,812,077

¹ Includes money-lenders.² Included with small loans companies.³ Compiled from data supplied voluntarily to the Superintendent of Insurance by provincial companies and estimated to cover about 90 p.c. of all

STATISTICAL SUMMARY OF THE PROGRESS OF CANADA—concluded

1931	1941	1951	1955	1956	1957	1958	
827,373 823,120	7,918,926 7,918,926	73,980,068 73,980,068	208,517,770 ¹ 208,517,770 ¹	262,386,415 ¹ 262,386,415 ¹	326,549,959 ¹ 326,549,959 ¹	.. ..	1 2
.. ..	11,351,467 11,351,467	30,570,466 30,570,466	.. ..	.. ..	.. ..	.. ..	3 4
15,459,347 25,718,219	20,596,781 38,570,855	28,446,331 93,565,917	32,090,504 159,235,891	36,690,878 170,344,746	38,843,072 176,964,312	.. ..	5 6
15,066,431 25,718,221	20,086,776 38,570,855	26,658,321 93,565,917	31,905,971 159,235,891	36,381,834 170,344,746	38,583,249 176,964,312	.. ..	7 8
215,698,469	268,596,524	543,983,754	734,670,479	815,367,349	886,560,559	..	9
66,338,148 125,829,165	58,165,471 108,912,208	74,399,404 258,413,136	88,360,564 437,168,231	91,554,381 446,448,674	97,258,395 472,678,645	.. ..	10 11
1,961,948,175	2,418,950,841	3,282,558,573	3,985,662,299	4,318,560,879	4,695,817,867	..	12
9,544,641,293 50,342,669 29,938,409	11,386,819,286 49,305,539 17,814,322	33,490,653,184 ● 134,496,218 ● 52,086,541 ●	.. 146,444,845 77,836,245	155,506,787 86,088,850	156,246,117 109,757,161	.. .. ..	13 14 15
1,341,184,333 7,185,066 4,985,605	1,120,181,968 3,992,765 2,237,832	2,887,564,984 ● 11,614,247 ● 6,174,914 ●	.. 15,071,988 9,299,116	.. 16,068,792 9,790,651	.. 19,779,452 12,402,752	.. .. ..	16 17 18
6,622,267,793 225,100,571 56,579,358	7,348,550,742 203,459,238 75,082,008	17,235,583,302 ● 394,019,379 ● 128,489,084 ●	25,451,571,525 520,098,190 161,883,205 ⁴	29,087,416,143 564,723,434 180,852,023	33,087,056,501 607,110,740 200,669,872	.. .. ..	19 20 21
202,094,301 5,178,615 2,603,453	164,451,218 3,988,952 2,583,958	708,733,573 ● 16,806,502 ● 6,727,241 ●	1,497,587,789 29,182,573 8,520,674 ⁴	1,779,673,222 33,082,660 10,369,482	2,106,173,517 38,466,850 12,577,821	.. .. ..	22 23 24

provincial business. The figures included all the large and most of the small provincial companies.
fraternal insurance. ¹ Includes annuity contracts for 1955 and subsequent years.

⁴ Excludes

APPENDIX

Certain information given in Chapter II on Constitution and Government is brought up to the date of going to press (Sept. 16, 1959) in this Appendix.

Page 62, Table 3

Addition to be made as follows:—

Major-General George P. Vanier, D.S.O., M.C., C.D.—Date of Appointment Sept. 15, 1959, and Date of Assumption of Office Sept. 15, 1959.

Page 63, Table 5

Members of the Eighteenth Ministry, as at Sept. 16, 1959

(According to precedence of Ministers)

Prime Minister.....	Rt. Hon. JOHN GEORGE DIEFENBAKER
Secretary of State for External Affairs.....	Hon. HOWARD CHARLES GREEN
Minister of Finance and Receiver General.....	Hon. DONALD METHUEN FLEMING
Minister of Veterans Affairs.....	Hon. ALFRED JOHNSON BROOKS
Minister of Transport.....	Hon. GEORGE HEES
Solicitor General.....	Hon. LEON BALZER
Minister of National Defence.....	Hon. GEORGE RANDOLPH PEARKES
Minister of Trade and Commerce.....	Hon. GORDON CHURCHILL
Minister of Justice and Attorney General.....	Hon. EDMUND DAVIE FULTON
Minister of National Revenue.....	Hon. GEORGE CLYDE NOWLAN
Minister of Agriculture.....	Hon. DOUGLAS SCOTT HARKNESS
Minister of Citizenship and Immigration.....	Hon. ELLEN LOUKS FAIRCLOUGH
Minister of Fisheries.....	Hon. J. ANGUS MACLEAN
Minister of Labour.....	Hon. MICHAEL STARR
Postmaster General.....	Hon. WILLIAM McLEAN HAMILTON
Minister without Portfolio.....	Hon. WILLIAM J. BROWNE
Minister of Mines and Technical Surveys.....	Hon. PAUL COMTOIS
Minister of National Health and Welfare.....	Hon. JAY WALDO MONTEITH
Minister of Northern Affairs and National Resources.....	Hon. FRANCIS ALVIN GEORGE HAMILTON
Minister of Defence Production.....	Hon. RAYMOND O'HURLEY
Secretary of State.....	Hon. HENRI COURTEMANCHE
Minister of Public Works.....	Hon. DAVID JAMES WALKER
Associate Minister of National Defence.....	Hon. JOSEPH PIERRE ALBERT SÉVIGNY

Pages 70-74, Table 11

Federal by-elections held between Sept. 1, 1958 and Sept. 16, 1959:—

<u>Date of By-election</u>	<u>Electoral District</u>	<u>Name of Member</u>
Sept. 29, 1958.....	Grenville-Dundas, Ont.....	JEAN CASSELMAN
Sept. 29, 1958.....	Montmagny-L'Islet, Que.....	LOUIS FORTIN
Dec. 15, 1958.....	Toronto-Trinity, Ont.....	PAUL T. HELLYER
Dec. 15, 1958.....	Springfield, Man.....	JOE SLOGAN

Page 79, Provincial Governments

With reference to the footnote on page 79, provincial elections were held in five provinces between Sept. 1, 1958, and the date of going to press (Sept. 16, 1959). The Ministries of these provinces as at Sept. 16 were as follows:—

Fifteenth Ministry—Manitoba

(Party standing at latest General Election, May 14, 1959: 36 Progressive Conservatives, 11 Liberals and 10 Co-operative Commonwealth Federation)

Premier and Acting Provincial Treasurer.....	Hon. CHARLES DUFFERIN ROBLIN
Minister of Public Works.....	Hon. ERRIK WILLIS
Minister of Industry and Commerce.....	Hon. GURNEY EVANS
Minister of Education.....	Hon. STEWART E. McLEAN
Attorney General.....	Hon. STERLING LYON
Minister of Labour and Acting Minister of Municipal Affairs.....	Hon. JOHN THOMPSON
Provincial Secretary.....	Hon. MARCEL BOULIC
Minister of Public Utilities.....	Hon. JOHN CARROLL
Minister of Agriculture.....	Hon. GEORGE HUTTON
Minister of Mines and Natural Resources.....	Hon. CHARLES H. WITNEY

Sixteenth Ministry—Ontario

(Party standing at latest General Election, June 11, 1959: 71 Progressive Conservatives, 22 Liberals and 5 Co-operative Commonwealth Federation)

Prime Minister and President of the Council.....	Hon. LESLIE M. FROST
Minister of Labour.....	Hon. CHARLES DALEY
Minister of Agriculture.....	Hon. WILLIAM A. GOODFELLOW
Minister of Public Welfare.....	Hon. LOUIS P. CECILE
Provincial Secretary.....	Hon. MACKINNON PHILLIPS
Minister of Education.....	Hon. WILLIAM J. DUNLOP
Minister of Municipal Affairs.....	Hon. WILLIAM K. WARRENDER
Treasurer.....	Hon. JAMES N. ALLAN
Minister of Planning and Development.....	Hon. WILLIAM M. NICKLE
Attorney General.....	Hon. A. KESLO ROBERTS
Minister of Travel and Publicity.....	Hon. BRYAN L. CATHCART
Minister of Public Works.....	Hon. RAY CONNELL
Minister of Health.....	Hon. MATTHEW B. DYMOND
Minister of Lands and Forests.....	Hon. J. W. SPOONER
Minister of Highways.....	Hon. FREDERICK M. CASS
Minister of Transport.....	Hon. JOHN YAREMKO
Minister of Energy Resources and 2nd Vice-Chairman, Hydro-Electric Power Commission.....	Hon. ROBERT MACAULAY
Minister of Mines.....	Hon. JAMES A. MALONEY
Minister of Reform Institutions.....	Hon. GEORGE C. WARDROPE
Minister without Portfolio.....	Hon. JOHN P. ROBERTS
Minister without Portfolio.....	Hon. JOHN ROOT

Eighth Ministry—Alberta

(Party standing at latest General Election, June 18, 1959: 61 Social Credit, 1 Liberal, 1 Progressive Conservative, 1 Coalition and 1 Independent Social Credit)

Premier, President of the Council, Minister of Mines and Minerals and Attorney General.....	Hon. ERNEST C. MANNING
Minister of Municipal Affairs.....	Hon. A. J. HOOKE
Minister of Highways.....	Hon. GORDON E. TAYLOR
Minister of Education.....	Hon. ANDERS O. AALBORG
Minister of Agriculture.....	Hon. L. C. HALMRAST
Minister of Lands and Forests.....	Hon. NORMAN A. WILLMORE
Minister of Welfare.....	Hon. R. D. JORGENSEN
Provincial Treasurer.....	Hon. EDGAR W. HINMAN
Minister of Public Works.....	Hon. JAMES HARTLEY
Minister without Portfolio.....	Hon. FRED C. COLBORNE
Minister of Industry and Development and Provincial Secretary.....	Hon. A. R. PATRICK
Minister of Labour and Minister of Telephones.....	Hon. RAYMOND KESPERSON
Minister of Health.....	Hon. J. DONOVAN ROSS

First Ministry—Newfoundland

(Party standing at latest General Election, Aug. 21, 1959: 31 Liberals, 3 Progressive Conservatives and 2 United Newfoundland)

Premier and Minister of Economic Development.....	Hon. J. R. SMALLWOOD
Attorney General.....	Hon. L. R. CURTIS
Minister of Mines and Resources.....	Hon. W. J. KEOUGH
Minister of Labour.....	Hon. C. H. BALLAM
Minister of Public Welfare (Acting) and Minister of Health.....	Hon. J. M. MCGRATH
Minister of Finance.....	Hon. E. S. SPENCER
Minister of Public Works.....	Hon. J. R. CHALKER
Minister of Highways.....	Hon. F. W. ROWE
Minister without Portfolio.....	Hon. P. J. LEWIS
Minister of Provincial Affairs and Solicitor General.....	Hon. MYLES P. MURRAY
Minister of Fisheries.....	Hon. J. T. CHEESEMAN
Minister of Municipal Affairs and Supply.....	Hon. B. J. ABBOTT
Minister of Education.....	Hon. G. A. FRECKER

Twenty-Fourth Ministry—Prince Edward Island

(Party standing at latest General Election, Sept. 1, 1959: 22 Progressive Conservatives and 8 Liberals)

President of the Executive Council and Minister of Agriculture.....	Hon. WALTER R. SHAW
Attorney and Advocate General.....	Hon. R. REGINALD BELL
Minister of Public Works and Minister of Highways.....	Hon. J. PHILIP MATHESON
Minister of Education.....	Hon. L. GEORGE DEWAR
Minister of Industry and Natural Resources and Minister of Fisheries.....	Hon. LEO. F. ROSSITER
Minister of Health.....	Hon. HUBERT B. MCNEILL
Provincial Treasurer.....	Hon. J. DAVID STEWART
Minister of Welfare and Labour.....	Hon. HENRY W. WEDGE

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